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ENVIRONMENTAL IMPACT STATEMENT

PURSUANT TO

MONTANA ENVIRONMENTAL POLICY ACT SEC. 69-6504

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MONTANA

PREDATORY ANIMAL CONTROL

PROGRAM

Prepared by
STATE OF MONTANA
DEPARTMENT OF LIVESTOCK
BRANDS-ENFORCEMENT DIVISION
HELENA, MONTANA
APRIL 8, 1974

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ANIMAL HEALTH DIVISION

Glenn C. Holver, D.V.M.
Administrotor
449-3074

BRANDS - ENFORCEMENT DIVISION

Wm. G. Cheney
Administrotor
449-2044

April 10, 1974

Dear Sir:

Enclosed for your review and comment is a Draft Environmental Impact Statement for the proposed "Montana Predatory Animal Control Program". This program is being proposed by the Montana Department of Livestock.

I encourage you to carefully review the enclosed materials and invite your response. Comments may be mailed directly to me or may be presented in writing or orally at any of the following public hearings:

Date	Time	Location
May 20, 1974	9:00 A.M.	Lake County Courthouse Polson, Montana
May 22, 1974	9:00 A.M.	Fergus County Courthouse Lewistown, Montana
May 23, 1974	9:00 A.M.	Custer County Courthouse Miles City, Montana

Oral statements will be received at the hearings, but for accuracy of the record, all testimony should be submitted in writing. Statements should summarize extensive written material so that there will be time for all interested persons to be heard. Persons submitting written statements are encouraged to bring additional copies for the use of the hearing panel and other interested persons.

The deadline for submitting written comments is May 23, 1974.

The enclosed Draft Environmental Impact Statement has been prepared by the Montana Department of Livestock, Brands-Enforcement Division in compliance with the Montana Environmental Policy Act, Section 69-6504 (b) (3).

Sincerely,

Wm. G. Cheney

Wm. G. Cheney, Administrator
Department of Livestock
Brands-Enforcement Division
Helena, Montana 59601

Enclosure - Draft E.I.S.

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I. DESCRIPTION OF THE SITUATION

A. The Problem: A critical situation exists in the State of Montana due to serious economic livestock losses and human health conflicts caused by certain predatory animals. This situation has become critical in the last two years, resulting from action taken due to the President's Executive Order No. 11643 (Appendix 2), Environmental Safeguards on Activities for Animal Damage Control on Federal Land and the U.S. Environmental Protection Agency's Pesticide Regulation Notice 72-2 (Appendix 3). Presently all current methods of predatory animal damage control are being employed, but livestock depredation and human health conflicts continues to be a serious problem (Cheney, 1973).

B. History of Predatory Animal Control in Montana: The control of predatory animals causing livestock depredation has been a vexing problem since livestock first entered Montana in the early 1800's. The Territorial Legislature sought to cope with the situation in 1879 by authorizing County Commissioners to pay bounties on certain livestock-killing predators (Mussehl and Howell, 1971). This action was unsuccessful in eliminating livestock depredation. In 1931 Congress passed the Animal Damage Control Act (Appendix 1) which authorized the Bureau of Biological Survey, a division within the U.S. Department of Agriculture, to conduct predatory animal control programs. The Bureau of Biological Survey in cooperation with the Montana Livestock Commission, (Department of Livestock) and cooperating counties developed a state cooperative program in 1931. Under federal reorganization in 1939, the responsibility for predatory animal control was transferred to the Fish and Wildlife Services Division, Department of Interior since renamed the U.S. Bureau of Sport Fisheries and Wildlife.

Prior to Executive Order No. 11643 and Pesticides Regulation Notice 72-2 in 1972, predatory animal control methods employed in Montana consisted of the M-44 with sodium cyanide, sodium monofluoroacetate (1080), strychnine lard baits, trapping, shooting, denning and aerial hunting. All predatory animal control in Montana has been conducted by the state cooperative program. Once strychnine, 1080, and the M-44 became suspended, control measures shifted to an increased use of aerial hunting and a greater dependency on steel traps.

From 1947 to 1971, the Montana Department of Livestock, then Livestock Commission, was advised by a Governor's Advisory Committee on Predatory Animal Control (State Advisory Committee Minutes on Predatory Animal Control, 1947-1971). The Committee was established by the 1947 Legislative Assembly consisting of representatives from the Montana Stockgrowers Association, Montana Wildlife Federation, Montana Fish and Game Commission and the United States Fish and Wildlife Service. This committee advised the Montana Department of Livestock regarding practical methods of control, expenditure of funds and development of a statewide predatory animal control program whereby the most efficient results could be derived. Under State Reorganization in 1971, the advisory committee was abolished.

Currently the Montana Department of Livestock enters into agreements with the U.S. Department of Interior, Bureau of Sport Fisheries and Wildlife (Appendix 4) and the Montana Department of Fish and Game (Appendix 5) for the purpose of formulating and conducting a practical predatory animal control program in Montana. The Montana County Commissioners, Montana Wool Growers Association, Montana Stockgrowers Association, U.S. Forest Service, U.S. Bureau of Land Management and local livestock associations have direct input into the planning of the program.

C. Impact of Predation on Livestock: Predatory animals are of concern to many ranchers engaged in several types of livestock enterprises, however, sheep and cattle ranchers are the groups most directly affected. Various species of predators are involved in predation, but by far the greatest concern at the present time, is coyote predation upon sheep and calves. Lesser problems exist with other predator species. Bear are involved in some sheep and cattle losses and cougar occassionally kill domestic livestock. Fox, bobcats and other small predator species do take poultry and small farm animals, if the opportunity presents itself.

Analysis of the U.S. Bureau of Sport Fisheries and Wildlife's Request for Services Forms (Montana Department of Livestock, 1973) indicates the economic loss to livestock producers due to predation during fiscal years 1969 through 1973 at $374,674.00. Losses to sheep and cattle producers amounted to $325,569.00 and $49,105.00 respectively. A county breakdown of these figures indicates that predator losses to sheep (Appendix 6) and cattle (Appendix 7) are a problem in most areas of Montana. Bureau officials express these loss figures only as measurement of trends in losses from year to year, and may represent only 10 percent of the actual livestock losses in Montana. It is evident from Bureau information that sheep losses to predators is the most critical predation problem in Montana.

From 1967 through 1969 the Montana Crop and Livestock Reporting Service, USDA, in cooperation with the Montana Department of Livestock conducted surveys in Montana to determine total death losses by all causes including predation to sheep and lambs. Total deaths by all causes during the three year period resulted in the loss of 1,170,000 sheep and lambs. Of the total losses an average of 18.3 percent was attributed to predation valued at $3,903,900.00 (Reynolds and Gustad, 1971). The remaining 81.7 percent of the sheep deaths were attributed to seven other major causes, including lambing complications, old age, diseases and parasites, bloat, theft, inclement weather conditions and poisonous plants. Of the total sheep inventory for the three year period (3,851,000 sheep and lambs), predator losses varied from a low of 4.5 percent in 1967 to a high of 6.7 percent in 1968, for a calculated average predator loss of 5.6 percent.

In February of 1973 the Department of Livestock completed a survey to determine the primary condition effecting the Montana sheep-raising industry (Seyler, 1973). Since 1960, regardless of flock size or type of operation, the survey showed sheep growers, past and present indicated predators had the most important detrimental economic effect upon their operations.

The Montana Extension Service (Luoma, 1973) conducted a Madison-Jefferson Counties Sheep survey by personally contacting all sheep growers in the area to determine the reason for decrease in sheep numbers in the two counties. The survey indicated coyotes were causing a decrease in sheep numbers. In some instances the actual loss to predators was high. Usually, however, it was the threat of loss to predators by their actual presence rather than by the number of sheep they killed. This caused a lack of land utilization by sheep growers due to the fear of predation. (Luoma, 1973).

Most recently a survey regarding the predator-sheep problem was conducted by the Montana Wool Growers Association in December of 1973 (Montana Wool Growers Association, 1973). Seventeen percent of Montana's sheep growers responded to this survey. They indicated a 58.5 percent increase in predator losses from calendar year 1972 to 1973 and estimated 1973 lamb losses due to predation as high as 20 to 40 percent of their total lamb crop.

The United States Forest Service, USDA, has kept records from 1940 to 1970 on sheep numbers introduced onto the national forests at the beginning of the summer grazing season, and removed from them at the end of the summer in New Mexico, Arizona, Colorado, Utah, Nevada, Idaho, Wyoming and Montana. Total sheep losses during the summer grazing period were recorded each year. Obviously the summer losses are only a fraction of the year-long losses. These records indicate annual sheep losses caused by conditions other than predation remained relatively the same during the 30 year period. However, in the 1960-1970 period, losses due to predation increased significantly (Four Corners Regional Commission, 1973).

The frequency of predation problems seem to fall within three general categories in Montana. First, chronic problems occur from year to year in certain areas during April through October with high lamb losses. Calf losses occur from March through May. Secondly, seasonal problems occur each year with sporadic predation at times reaching chronic proportions. However, the total amount and duration of intensity fluctuate greatly from month to month and from year to year. Thirdly, irregular predation problems exist when livestock producers have little or no consistent annual predation problems. Then livestock producers may experience losses of chronic proportions usually lasting only a short period of time.

When considering economic loss due to predation, the size and scale of the individual operation must be analyzed (Nesse, 1971). For example, an annual predator loss of 25 lambs may only be of moderate importance to a large operation. However, to a small farm-flock operator such a loss represents a substantially greater percentage of his flock. In addition, a moderate loss rate during a good production year with high market prices, may have only a minor economic impact while the same predation rate during a poor feed and production year, with low market prices, can have a drastic impact on the net return for the same investment. It is important to consider the size and scale of a producers operation before deciding where one predator problem is economically more detrimental than another.

D. Coyote Population Trends: Data relating to coyote densities and population levels in Montana is very limited. Current methods used to measure general coyote population trends in Montana include indices of relative coyote abundance, government trapper reports and State Fish and Game fur take estimates.

Indices of relative coyote abundance are obtained by statewide scent post surveys conducted by the U.S. Bureau of Sport Fisheries and Wildlife. The surveys are run each year at the same time and locations. Available data from 1972 and 1973 show that coyote populations in Montana have increased approximately 21 percent (USDI, 1974).

The number of coyotes reported taken statewide by the U.S. Bureau of Sport Fisheries and Wildlife district field agents (trappers) has risen steadily during the last five years. This increased take of coyotes, without the aid of toxicants may indicate an increased abundance of coyotes throughout the State of Montana.

Fur take estimates are a result of questionnaires sent to all licensed fur trappers in Montana. Data from 1970-1973 shows a 400 percent increase in the number of coyotes taken (Montana Fish and Game, 1973). Fur take estimates are subject to bias concerning predators, since trapping and hunting licenses are not required to take predators. The fur take survey thus overlooks a considerable number of predator trappers as well as hunters.

Pacific Hide and Fur Company of Great Falls, Montana indicate an increase in coyotes taken in Montana during the three previous fur seasons. Approximately 2,000, 6,000 and 10,000 coyote pelts were purchased during 1971, 1972 and 1973 fur seasons respectively (Young, personal communication, 1974). An important consideration in fur harvest trends is monetary value of furs. Increased sale of coyote pelts can reflect high fur value.

In comparing all available data concerning coyote abundance, an increase is evident in Montana in recent years. Increases in Montana's coyote populations may reflect cyclic population fluctuations or possibly the absence of predacides. The relationship between population levels of coyotes and the amount of predations occurring to livestock is subject to controversy. Scientists have been unable to determine the effects of coyote abundance in relationship to livestock depredation.

E. Impact on Rabies in Striped Skunks: Presently the occurrence of rabid skunks is an endemic problem of Eastern Montana. It is not known how long rabid skunks have been present in Montana. The first laboratory confirmation in the state was made in Fallon County on April 21, 1964. Since the first reported incident, a total of 82 rabid skunks have been diagnosed with all but five cases being located in extreme Eastern Montana counties.

Because no other species of mammals appear to be involved in the epizootic of rabies in striped skunks in Eastern Montana (1964-1973),

skunks alone are responsible reservoirs for the disease. These reservoirs may have stemmed from endemic skunk rabies areas of Saskatchewan and North and South Dakota. Records available from the Animal Health Division, Department of Livestock, indicate the range and distribution of rabies since 1964 are widely scattered in time and space. The introduction of skunk rabies into Montana parallels the frequency of migration of skunk rabies in Saskatchewan and the Dakotas. "Spillover" from these areas still seems to prevail in the scope of skunk rabies in Montana. No skunk rabies cases have been diagnosed in the western half of Montana.

Rabies in striped skunk has been diagnosed in each month of the year since 1964; however, the majority of cases have occurred during March, April, May and June (Montana Department of Livestock, Animal Health Division, 1964-1974).

Sylvatic rabies diagnosed in striped skunks was recorded at an all time high during the first five months of 1973 in Montana. Nineteen rabid skunks were diagnosed during this period. This increase in rabid skunk finding over any other year may be due to additional rabies surveillance by control personnel, more people participating in outdoor recreation, cyclic patterns of the disease, reduced skunk control because of the federal ban on toxicants or increased number of skunks submitted as a result of trapping instead of previous control procedures.

Of major concern is the possible exposure of humans and livestock to rabid animals. A substantial number of rabid skunks were killed by farmers in the vicinity of their home premises. A portion of these skunks were chasing domestic dogs and livestock, and in some cases members of farm families.

Two children were bitten and twelve other persons were exposed in skunk rabies related incidents. All received Pasteur immunization treatments for rabies. Livestock losses due to rabies since 1964 has been a total of nine. Other livestock losses may have occurred from rabies but were not diagnosed.

F. The Leopold Report - 1964: The Leopold Report (Leopold, 1964), a forerunner of the Cain Report was an evaluation of predator control activities in the United States at that time. The report made recommendations concerning restricting the use of toxicants. The suggestions were not extreme, but were poorly heeded by state and federal agencies conducting predatory animal control programs. Modifications in the use of toxicants then, may have altered the unacceptable situation that predator control personnel find themselves in today, with the ban on toxicants.

G. The Cain Report, Predator Control 1971: The Council on Environmental Quality and the U.S. Department of Interior established an advisory committee on predator control in 1971. In three months, this committee produced the 1971 Predator Control Report (Cain, 1972), commonly referred to as the Cain Report. The report gave fifteen

recommendations on predator control which were used to justify both the Executive Order 11643 and Pesticide Notice 72-2 banning the use of predacides.

The Cain Report reduced the efficiency of most state predatory animal control programs by taking away, without suitable alternative substitutes, the principal effective tools used to reduce depredations to the livestock industry. It was a well intended but premature document; suitable nonlethal methods of predatory animal control were not available, contrary to the assumptions of the Cain Report.

H. Executive Order No. 11643: Executive Order No. 11643, February 8, 1972, Environmental Safeguards on Activities for Animal Damage Control on Federal Land (Appendix 2) placed an immediate halt to the use of chemical toxicants for the killing of predatory mammals and birds, or for the control of mammals, birds, and reptiles if there was the possibility of secondary poisoning on federal lands. It also prohibits federal participation in the use of such toxicants. It further provided that under Section 3b (1, 2, and 3) the head of federal agencies may authorize the emergency use of a chemical toxicant for the purpose of killing predatory animals for: (1) the protection of health or safety of human lives; (2) the preservation of wildlife species threatened with extinction; and (3) the prevention of substantial irretrievable damage to nationally significant natural resources.

The Executive Order is the legal enforcement of the Cain Report recommendations, and again it can be said that this Order is rather untimely since suitable alternative predatory animal control methods are not available.

I. Pesticides Regulation Notice 72-2 - March 9, 1972: William D. Ruckelshaus, Administrator for the Environmental Protection Agency issued "Pesticides Regulation Notice 72-2" (Appendix 3)which suspended the registration for all products containing sodium monofluoroacetate (1080), sodium cyanide, or strychnine for use against mammalian predators, and stated that they be cancelled and suspended immediately. It is generally concluded that the only evidence used by the Environmental Protection Agency for banning the use of predacides was the Cain Report.

Considering that the Federal Environmental Pesticide Control Act of 1972 (FEPCA) is presently in existence, it is now possible for the U.S. Environmental Protection Agency to regulate the usage of all pesticides. If predacides are being misused in any way the U.S. Environmental Protection Agency can restrict immediately such use. Why then was it necessary that Executive Order 11643 and Pesticide Regulation Notice 72-2 be issued? This leaves no alternatives open for predatory animal control involving the need for predacides.

J. Advisory Council on Rodent and Rabid Skunk Control: Due to the Executive Order 11643 and Pesticides Regulation Notice 72-2 the Department of Agriculture was instructed by Governor Anderson on

April 25, 1972 to designate an Advisory Council on Rodent and Rabid Skunk Control (Montana Department of Agriculture) equally representing four basic disciplines: agriculture, health, livestock and wildlife. This Council was given the responsibility of developing appropriate legislation, if necessary, to provide for an organized program to control rodents affecting Montana food supplies and rabid skunks endangering the health of citizens and livestock, with consideration for the environment from possible adverse effects of toxicants.

The Advisory Council was not specifically directed to review predator control in Montana; however, because the three programs (predators, rodents and rabid skunks) are intimately associated, the Council did review this problem to some degree. The Council made the following recommendations in the form of bills and resolutions to the Senate and House of Representatives of the State of Montana:

SENATE JOINT RESOLUTION 25 - A joint resolution of the Senate and House of Representatives of the State of Montana respectfully requesting the President and the Congress of these United States to make available additional money and manpower for predator control research.

SENATE JOINT RESOLUTION 26 - A joint resolution of the Senate and House of Representatives of the State of Montana respectfully requesting the Congress and the President of these United States to establish a National Rabies Research Program to provide protection to the citizens of Montana and other states.

SENATE BILL NO. 335 - A bill for an act entitled: "An act creating a state rodent, rabid skunk and predator evaluation program in the Department of Livestock to investigate, review and evaluate rodents and predators of economic and public health concern and to recommend methods of effective control having the least adverse effect on Montana's environment".

SENATE BILL NO. 342 - A bill for an act entitled: "An act appropriating monies to the Department of Livestock from the general fund to create a rodent and predator evaluation program".

Senate Joint Resolutions 25 and 26 were successfully passed while Senate Bills Nos. 335 and 342 were defeated. The Advisory Council existed until June 30, 1973, and at that time presented a final report to the Governor.

K. Predator and Rodent Control Advisory Council: The Montana Department of Livestock presently has a Predator and Rodent Control Advisory Council which represents the interests of livestock, wildlife, environment, agriculture, health, natural resources, conservation, county government and the governor's office. The purpose of the Council is to insure that the predator control program is executed in a manner that will preserve environmental quality and

to discuss the diverse social values involved in various predator control programs

L. Predatory Animal Control 1974 - A Dilemma: One of the dilemmas facing the public and its officials is a need to balance livestock resource losses against the adverse effects resulting from predatory animal control to prevent such losses. The effectiveness of the various control methods must be known, as well as any adverse effects that these methods may cause, plus valid livestock damage assessments due to predation. A number of control methods are being explored including fencing, herding, repellents, aversive agents, frightening devices, anti-fertility agents and chemosterilants (U.S. Bureau of Sport Fisheries and Wildlife, 1973 and USDA-ARS W123 Technical Committee, 1973). None of these methods have been developed to where they are effective. The M-44 (a spring-loaded device that ejects sodium cyanide into the mouths of coyotes) is one of the most effective and selective methods of predator control available (Reasom, 1973), but has been suspended by the U.S. Environmental Protection Agency's ban on toxicants.

An additional dilemma is the control of rabies in wildlife species, presently striped skunks. The sole aim is to prevent the spread of rabies to domestic animals and thereby lessen the chance of human exposure. To achieve this, the only technique currently available is the selective reduction of the population of the species involved. In man, the disease can be prevented by minimizing exposure to rabid animals and by a combination of local wound treatment and immunization after exposure. The control of rabies has been hampered by our very limited understanding of the disease in wild animals. Only fragmentary data are available on the distribution of the disease in wild animals, the means by which these animals are infected, and the subsequent host response to infection. Data on biological properties of the known wild-animal hosts of the disease, including pertinent information on population dynamics, movement and inter- and intraspecies interaction are inadequate (National Academy of Sciences, 1973).

Predatory animal control in Montana is restricted to ground and aerial hunting, trapping, denning and call shooting. Predacides are used only for emergency rabies control. Livestock depredation and human health conflicts continue to be a serious economic threat and public health threat to man. There is a continued need for predatory animal control in Montana. Better methods of achieving adequate control are needed. A continuation and extension of evaluation to form a more rational basis for future actions is necessary.

II. DESCRIPTION OF PROJECT

A. Purpose: The Department of Livestock is directed by virtue of the provisions of R.C.M. 1947, Section 46-1903 to formulate and conduct practical predatory animal control programs responsive to the need for control in each area of the state.

B. Primary Objectives: The primary objectives are to prevent or reduce the killing, destruction, maiming or injury caused by predatory animals to domestic livestock and poultry and to alleviate problems caused by those species which may endanger human health or safety.

C. Secondary Objectives: Local population control of predatory animals causing domestic livestock and/or poultry damage is an objective of predatory animal control. Control is limited to the troublesome species, preferably to the troublesome individuals, and in any event, to the localities where damage or danger exist.

Additional objectives are evaluation and study of predator socio-economics, domestic livestock and poultry predator damage assessment, dynamics or predator populations, depredation control pertaining to livestock losses and disease.

D. Department of Livestock Authority: The Department of Livestock is empowered to act in the area of predatory animal control by virtue of the provisions of R.C.M., 1947, Section 46-1903. It should be noted that this statute also provides that the Department of Livestock is required to cooperate with various associations, boards of county commissioners, and other state and federal agencies, including the Montana Fish and Game Department and the U.S. Bureau of Sport Fisheries and Wildlife.

E. United States Department of Interior Authority: The U.S. Department of Interior is authorized and directed by the Act of March 2, 1931 (46 Stat. 7 U.S.C. 426-426b) (Appendix 1) to provide animal damage control services. This is accomplished through the U.S. Bureau of Sport Fisheries and Wildlife in cooperation with the State of Montana. The program is conducted in accordance with authorization and directives in other Federal laws including:

1. *The Endangered species Conservation Act of 1969 (16 U.S.C. 668aa et. seq.);*

2. *Migratory Bird Treaty Act (1918), as amended (16 U.S.C. 703-711);*

3. *Fish and Wildlife Coordination Act (1934), as amended (U.S.C. 661-666c);*

4. *The McNary-McSweeny Reforestation Act (16 U.S.C. 742a et. seq.);*

5. *The Bald Eagle Act of 1940, as amended (16 U.S.C. 668-668d);*

6. *The Pesticide Research Act, as amended (16 U.S.C. 742d-1);*

7. *The National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347);*

8. *The Federal Environmental Pesticide Control Act of 1972 (86 Stat. 973-999 7 U.S.C. 135 et. seq.).*

F. Cooperative Project Agreements: The Montana Department of Livestock will enter into agreements with the U.S. Department of Interior, Bureau of Sport Fisheries and Wildlife, Division of Control, Boards of County Commissioners and the Department of Fish and Game in accordance with the program purpose and objectives. The Montana Wool Growers Association, Montana Stockgrowers Association, local livestock associations, U.S. Forest Service, Bureau of Land Management and the Extension Service will have direct input into the planning and operation of the program.

G. Program Duration: The predator control program in Montana shall continue indefinitely depending upon a number of factors. As suitable non-lethal methods and proven alternatives to the present program develop, decisions concerning change in predator control will be made. These decisions will depend upon input from livestock producers concerning management practices, economic factors, and researchers developing new innovations in detouring predators from killing, injuring, maiming and harassing livestock and poultry.

H. Personnel: Montana's Predatory Animal Control Program will be administered, supervised and conducted by trained professional employees or authorized agents of the Montana Department of Livestock and/or U.S. Bureau of Sport Fisheries and Wildlife. Beginning July 1, 1974 approximately 17 full-time trappers, four part-time trappers and 10 part-time aerial hunting pilots will be employed to conduct the field program.

I. Target Species: R.C.M., 1923, Section 46-1902, as amended, terms predators as "wild animals" including coyotes, lynx, bobcats and any other animal causing depredation upon livestock.

1. Primary target species:

a. Coyotes - Predation by these canids are on sheep, cattle, poultry, and swine. Damage is done by killing livestock directly or chasing livestock causing abortions, bobbing their tails or running them into bogs, fences or corrals. The coyote typically kills by attacking the thoracic region; however, the hind legs and flanks may also be attacked on calves. Calves bobtailed by coyotes are evidence of this behavior. Ozoga and Harger (1966) reported that autopsies of white-tailed deer killed by coyotes revealed tooth marks and hemorrhage in the upper neck and head region, but almost no injury to other parts of the

body. The focal point of the attack was the throat. Once down, the deer were frequently dispatched by bites to the head; some fang marks penetrated the skull.

Adult sheep, lambs and calves are most often attacked in the head and throat (Giles, 1971). The throat of an adult sheep, lamb, or calf, attacked by a coyote may resemble a throat that has been slit with a knife. Preferred parts are the hindquarters, unborn young, and udder. The paunch and intestines may be removed and dragged a short distance from the carcass. Smaller animals, such as lambs and fawns, are often seized by the head and killed by crushing some facial bones. This is also true with elk calves (Robinson, 1952).

b. Fox - The largest prey of the fox are young lambs and pigs, adult jack rabbits, and poultry. Mice and rabbits are staples for the fox. Fox will attack adult sheep and though they may injure them, they usually do not kill them. Fox will, however, feed upon larger animals as carrion.

The prey is usually carried some distance from the kill location, often to a den. The remains are often hidden in debris or partly buried in a hole scratched in the soil. Einarsen (1956) observed that foxes often urinate on uneaten remains and that odor is an identifying sign. The fox can climb over a fairly high chicken-wire fence while removing poultry (Burkholder, 1955).

2. Secondary Target Species:

a. Dogs - Dogs occasionally cause severe losses to penned sheep or poultry without touching an animal. Harassment by the predator from outside the pen can cause the enclosed animals to stampede and pile-up in a corner resulting in deaths by suffocation. Tracks outside the pen will aid in identifying the predator.

Dogs most often attack the hindquarters and flanks of calves, deer and sheep. Several areas of the body of these prey may be torn after an attack by dogs; however, the victim may not be killed.

b. Bears - Grizzly and black bears do kill sheep, and occasionally cattle and horses. Bears usually kill by biting the head or neck or by slapping the prey. Torn and mutilated carcasses characterize the victims of bear attacks. In eating, black bears will peel back the hide in a manner that resembles case-skinning. They may remove the carcass to a more secluded

spot to eat, if the kill is made in the open.

Davenport (1953) reported that black bears may eat the udders of females before opening the animal. The victim is usually opened ventrally and the heart and liver are consumed. The intestines are usually strewn about and the animal may be partly skinned in an attempt to locate the firm fleshy parts. Fecal deposits are generally found within 100 ft. of the carcass and a bed is often nearby.

A study by Murie (1948) indicated grizzly bears have a well-defined feeding pattern on cattle. Cattle are killed by a bite through the dorsal part of the neck. The stomach and intestines are removed and the bear begins feeding on the brisket, ribs, and proximal end of the forelegs. The heart and liver are sometimes eaten, and the hindquarters are taken last.

The presence of a bear has been known to stampede range sheep, causing damage as the herd piles up in a timber blow down or stampedes over a steep embankment.

c. Bobcat, Lynx - These felines prey on deer, sheep, rabbits and porcupine. Bobcats and lynx also prey on cattle and horses.

Bobcats almost invariably kill adult deer by leaping on their backs and shoulders, often when they are lying down, and biting them on the ventral part of the neck. The wind pipe is pinched and the jugular vein may be punctured. Very young fawns, lambs, and smaller prey are usually killed by a bite through the dorsal part of the neck or head (Young, 1958).

Bobcats prefer the hindquarters of deer or sheep in most cases; however, the shoulder and neck region or the flank are sometimes eaten first. The stomach is generally untouched. In most cases the carcass is partly covered with litter or snow - especially the parts that have been fed upon. Poultry are usually killed by biting the head and upper vertebrae (Young, 1958); the heads are usually eaten.

It is probably impossible to distinguish between the bobcat and the lynx by their droppings (Murie, 1954) and feeding habits. In areas occupied by both, the tracks near the carcass help determine which was responsible. The lynx has more wide-spreading toes and hairy feet, distinguishing it from the bobcat.

Bobcats and lynx almost always attempt to cover their kills with litter. Bobcats reach out 12-14 inches in scratching litter. The distances between the canine teeth and the diameter of the tooth marks will also help distinguish a cougar kill from that of the bobcat and lynx.

d. Raccoon - There is little evidence that raccoons prey heavily on mammals. They do, however, occasionally kill poultry, small lambs and kid goats; they usually feed on only the eyes and tongue of lamb and goats. They also prey on birds and their eggs. The heads of adult birds are usually bitten off and left some distance from the body. The breast and crop may be torn and chewed, the entrails are sometimes eaten, and there may be bits of flesh near water. In a poultry house, the heads of many birds may be taken in one night.

One or more of the eggs may be removed from poultry or game-bird nests and may be eaten away from the nest. There is often some disturbance of nest materials.

e. Badger - Badgers sometimes prey on rabbits, but their diet consists mainly of prairie dogs, pocket gophers and ground squirrels. They may also destroy the nests of ground-nesting birds and occasionally kill small lambs, and half-grown domestic turkeys, parts of which they may bury in a hole resembling their den.

The characteristic digging of holes in agricultural and livestock fields by badgers causes damage to crops, farm equipment and livestock.

f. Skunks - Skunks, although often accused of killing poultry and small game species, kill few adult birds as compared to the nests they rob (Einarsen, 1956). When skunks do kill poultry, they generally will kill only one or two birds and maul them considerably.

Skunks are notorious egg robbers and the signs of their work are quite obvious. Eggs are usually opened at one end and the edges are crushed as the skunk punches its nose into the hole to lick out the contents (Einarsen, 1956). The eggs may appear as hatched, except for the edges. They are sometimes removed from the nest, though rarely more than 3 ft. Canine tooth marks on the egg will be at least 1/2 inch apart. When in a more advanced stage of incubation, the eggs are likely to be chewed into small pieces.

Rabid skunks in Montana have also become a serious problem in recent years. It is a problem which may necessitate skunk controls when wild skunks are transmitting rabies to man, his pets or livestock. The rabies virus, which is found in the saliva of contageous animals, is usually passed on by a bite, but may also be picked up through cuts and scratches when rabid animals are handled carelessly.

J. Control Methods:

1. Traps - Steel traps are manufactured to capture a variety of predatory animals. They are placed under ground to capture such animals as coyotes, bobcats, fox, raccoon and skunks. These traps may or may not be baited. If placed without bait, usually in the travel lane of the animal, the set is called a "blind set". A "baited set" uses the animals food, or some other lure such as fetid meat, urine, or musk to attrack the animal to the trap.

   The location of the trap is the key to success. It is placed only in areas where the offending animal naturally and regularly frequents. Dirt sets are made by digging a hole the size of the trap and deep enough so the trap will be approximately 1/2 inch below the surface when placed in the excavation. The trap is attached to a firm anchor, usually a stake, or attached to a "drag". A canvas cloth or screen is placed over the pan and under the jaws to prevent clogging of the trigger mechanism. Then dirt, sand or other material that is natural to the environment is used to cover the trap. If bait is used, it is placed above or behind the trap.

   The steel trap has the advantage of being relatively safe to humans and livestock. Steel traps are the most effective method known for controlling bobcats.

   Traps have the disadvantage of not being selective and may catch several species of animals before the desired individual or species is captured. Traps used by a trained professional trapper minimize the number of non-target species captured.

   Weather can adversely affect steel traps and prevent them from springing when stepped on by an animal. They can become frozen in the ground, buried under snow or water, or "mudded-in" after a rain. If buried in sand or a very dry soil, wind can blow the covering material away leaving the trap exposed.

2. Snares - Snares, made of cable are among the oldest control tools known to man. They can be used effectively to catch several species, but are most frequently used to capture bear, fox and coyotes. They have limited application, but are effective when the proper conditions exist. They are much lighter and more convenient to use than steel traps in several respects.

Body snares are set where they are likely to catch the animal's neck. This could be at a "crawl" under a fence, a trail under some brush, a den entrance, or some other narrow passageway. As the animal enters the loop formed by the cable, his body thrust or movement tightens the noose, and the animal is held.

The foot snare is tripped with a device which is activated when an animal places its foot on the trigger. When sprung, the noose is drawn securely around the animal's foot. This snare has been used effectively to capture depredating grizzly and black bears (Seyler, 1968). It is most effective on bears because a pen can be built and they can be "led", so to speak, into the snare. A foot snare, when used for bear control, is very safe. A human can step into the bear snare and not be injured.

3. Calling - Calling predators, mainly coyotes and fox, is a control tool in organized animal damage control programs. Oral or recorded calls are used to imitate the sound of a rabbit in distress. The curious or hungry target species is lured by the call into shooting range. Calling has proven effective in controlling trap-wise coyotes. This method is selective and relatively safe. Most effective results for foxes and coyotes are obtained by calling in the early morning or late afternoon. Fox calling is also effective at night. Camouflage and a clear view should be considered when the caller is selecting his stand.

4. Denning - Den hunting is used to locate coyote and fox pups. When coyote or fox depredations are occurring in the spring, chances are the adults are killing to provide food for their pups. If the pups are found and destroyed, predation may cease. If predation persists, animals from additional dens or pups that have escaped from dens previously located may be the cause.

   Dens are found by tracking the adults. "Den sign" will resemble a wheel; the hub being the den and the spokes the adult trails to and from the den. When leaving the den, the parents may wander as they hunt for food, but after food has been obtained, they will generally return to the den in a straight line. The den hunter should follow the straight-line trail.

   Den hunting usually takes a lot of time and work. High winds and ground can make tracking very difficult. If dens are found, these are good locations for taking with traps or calls, adult coyotes and fox that have successfully evaded previous control efforts.

5. Aerial Hunting - Public Law 92-159 (Appendix 8) prohibits any person, while airborne in an aircraft, from shooting or attempting to shoot any bird, fish or other animal. This does not apply however, to any person who is employed by or who is an authorized agent of, or who is operating under a license or permit of any state of the United States involved in the protection of

land, water, wildlife, livestock, domesticated animals, human life or crops. This then, allows employees or agents of the Bureau of Sport Fisheries and Wildlife and the Montana Department of Livestock to hunt coyotes and/or foxes. Also, the State of Montana, through the Department of Livestock may issue permits in compliance with Public Law 92-159. The Department of Livestock presently has Aerial Hunting Permit Rules 32-2.10 (22)-S10090 through 32-2.10 (22)-S10220 (Appendix 9) with an effective date pending public hearings. Upon determination of the effective date and consideration of recommended amendments, Aerial Hunting Permits may be issued to qualified pilots only when in the judgement of the Department of Livestock a need exists for hunting of coyotes and/or foxes by aircraft to provide protection for livestock. No permit shall be issued for hunting coyotes and/or foxes for recreational purposes, the use thereof intended solely as a protective measure for livestock.

Aerial hunting is the most selective technique available in removing individual coyotes and foxes causing damage to livestock. There is no chance of killing a non-target animal, as is the case of all other methods except shooting on the ground.

Predators are located by using sirens or by searches made in fixed wing or rotary aircraft. Often troublesome individuals can be taken at a kill site by aircraft flights in early morning hours.

Shooting takes place from the aircraft using a shot gun. Animals are taken at close range. An aerial hunting crew consists of the pilot and one gunner. Ground crews are valuable in locating and chasing predators from cover. Contact is maintained between crews by radio.

The greatest disadvantage to the use of aircraft is that it cannot operate successfully in mountainous timbered terrain and is limited much of the time by adverse weather. Most effective results are achieved in relatively open, flat area.

6. Emergency Use of Predacides for Rabies Control - The skunk reduction program is accomplished by trapping and shooting in an area whose perimeter is determined in relation to the location of a rabid skunk by the Department of Livestock's Biologist. In the event that this program does not prove adequate to protect animals and man from undue exposure to rabies, then upon the determination of the State Veterinarian that a rabies emergency does exist, toxicants will be employed to effectuate the skunk reduction program in the area selected by the Biologist.

In the event that a rabies emergency occurs the Board of Livestock may recommend the use of predacides. Before such a program may be initiated, all rules and regulations of the Environmental Quality Council, Montana Department of Agriculture, Pesticides Division and the U.S. Environmental Protection must be

complied with. Presently such a program is in effect (Emergency Rabid Skunk Control E.I.S., Department of Livestock, 1973).

K. Funding: The Montana Department of Livestock, Montana Department of Fish and Game, local Montana Wool Growers Association, local Montana Stockgrowers Association,U.S. Department of Interior, Bureau of Sport Fisheries and Wildlife, and 50 counties will participate financially in the Predatory Animal Control Program. Department of Livestock funds are derived from a 4½ mill levy on sheep and 2 mills on other livestock. Counties will provide funding by requiring a license fee of 10 to 15 cents on all sheep coming one year old or over.

The Montana Legislature appropriates $5,000.00 annually for rabies control. Total funding for fiscal year 1974 is as follows:

Bureau of Sport Fisheries and Wildlife	*$165,600*
Department of Livestock	*165,821*
Department of Fish and Game	*40,000*
Counties	*75,000*
Legislature (Rabies Control)	*5,000*
	$451,421

L. Research and Evaluation: Reliable data is desperately needed in the areas of predator damage assessment, development of damage control methods, population ecology, socio-economics and disease. Examples of research areas in which the Montana Department of Livestock is engaged in, or encouraging evaluation and study by Federal Agencies, State Agencies, University systems and others are as follows:

1. Predator Damage Assessment:

   a. Questionnaire or survey method of acquiring more complete livestock damage assessment.

   b. Field studies assessing actual losses of livestock and identifying accurately the various causes.

   c. Damage assessment on non-control areas.

2. Development of Damage Control Methods:

   a. Explore the possibilities of using non-lethal control in the form of chemosterilants, aversive agents, repellents, fencing, etc.

   b. Develop more selective and effective means of preventing livestock losses due to predators.

c. Determine when and where present control methods should be practiced to achieve maximum selectivity and efficiency.

3. Population Ecology:

a. Predator population studies including food habits, recruitment, dispersal, movements, behavior, population structure, physiology, longevity and relationship of prey populations to livestock losses.

b. Effects of predator control methods on target and non-target species populations.

c. Response of coyote populations to various predator control methods.

d. Determine population levels of coyotes throughout the state.

4. Socio-economics:

a. Questionnaire evaluating predator socio-economics concerning livestock.

b. Cost-benefit studies of predator control.

c. Explore alternative methods to offset economic losses of livestock to predators - (compensation programs, insurance, etc.)

d. Determine the primary conditions affecting the livestock industry, primarily sheep and cattle, as expressed by producers.

e. Consult all agencies which might provide precise data on economic losses or assist in obtaining them.

5. Disease:

a. Evaluation of strychnine toxicants for suppressing rabies in striped skunks.

b. Rabies surveillance program in striped skunks in Eastern Montana.

c. Diagnosis of rabies in Montana wildlife.

M. Advisory Council: Presently the Montana Department of Livestock has a Predatory and Rodent Control Advisory Council which represents the interests of Livestock, Wildlife, Environment, Agriculture, Health, Natural Resources, Conservation, County Government and the Governors Office. The purpose of the Council is to insure that the predator

control program is executed in a manner that will preserve environmental quality and to discuss the diverse social values involved in various predator control programs. This Council would continue if said Predatory Animal Control Program is adopted.

N. Information/Education Program: The complex responsibilities, programs and attitudes relating to the predatory animal control program, warrant assistance and explanation to the public by the Montana Department of Livestock. Personnel, time and money will be dedicated to such assistance and coordinated in such a manner that the activities of other agencies, organizations, groups and individuals are complimented.

III. COST VERSUS BENEFIT

A. Predatory Animal Control: Valid evaluation of cost versus benefit of predatory animal control cannot presently be analyzed. The cost of control must be viewed in the context of the overall worth of the ultimate management objectives and in relation to the other costs of the program (Berryman, 1972). In addition to direct economic assessments, we need to be able to equate social (Cringan and Harris, 1972) and aesthetic values (Gier, 1968) to the total appraisal of worth. Thus far, we are unable to place values on social and aesthetic factors. Likewise, from an economic standpoint, the actual number of livestock losses occurring in any single area due to predation is not known. For this reason cost vs. benefit shall only be discussed in relation to reported losses and cost of the program.

The Montana Crop and Reporting Service (USDA-ERS) and Bureau of Sport Fisheries and Wildlife reports estimate livestock losses due to predationare in excess of one million dollars annually (previously discussed on pages 2-3). How much greater this economic loss would have been if predatory animal control had been less effective is not known.

For fiscal year 1973, the predatory animal control program cost $458,121.00 including administration, supervision, evaluation and livestock depredation control. These funds were expended for the protection of Montana's Livestock Industry valued at approximately $1,229,624,000.00 (Montana Crop and Livestock Reporting Service, USDA, 1974).

The most serious economic threat of predation is on Montana's Sheep Raising Industry. Approximately 90 percent of the predatory animal control program is directed towards the protection of this industry valued at $38,478,000.00 with benefits derived by other classes of livestock in or adjacent to control areas. The remaining 10 percent of the predatory animal control program is directed towards the protection of cattle, horses, swine and poultry valued at $1,191,146,000.

Consequently, since the amount of livestock depredation prevented has not been determined, it is extremely difficult to measure the cost vs. benefit of the predatory animal control program. The value of current control for the essential benefit gained by present control operations is the amount of loss prevented.

B. Rabies Control: In the period from 1964 - 1973, a total of $65,327 was used for rabies suppression in Eastern Montana. The success of these programs in reducing skunk populations and skunk rabies incidence is difficult to evaluate since little field data was collected. However, from June 6 to October 31, 1973, a rabies suppression program was initiated and reliable data collected in most areas (Seyler and Niemeyer, 1974). Strychnine injected eggs were used for control.

Treated areas encompassed approximately 415,720 acres with an average distribution of one strychnine egg per 100 acres. During the

five month program 264 striped skunks were recovered at a program cost of approximately $10,000 including supervision, project evaluation and field control. Population surveys in Sheridan County indicated that skunk populations were reduced by as much as 86 percent while other non-target species remained stable or increased.

Livestock valued at $33,980,094 and the people in the immediate control areas, benefited directly or indirectly from rabies control efforts. No livestock were reported lost to rabies in the counties (Sheridan, Roosevelt, Daniels) treated; and no human exposures or fatalities to rabies occurred.

In a disease prevention or reduction program, the benefits derived are difficult to assess. Preventing human exposure and death is the essential benefit that is sought. The value of human lives are immeasurable, however, the expense of receiving a series of rabies immunization injections is known. An individual exposed to rabies can expect to spend approximately $120 for the Pasteur vaccine, plus medical fees. Painful side effects from the vaccine are not uncommon.

Loss of livestock to rabies is not uncommon and often can go unnoticed. The cost of a single head of livestock can be a significant economic loss to the owner.

Close surveillance of the emergency control areas in succeeding years may indicate the need for continuation or expansion of similar programs.

IV. ENVIRONMENTAL IMPACT

A. Description of Proposed Action: In order to prevent or reduce the sharply increased predation on domestic livestock and increase human health conflicts brought on by insufficient predator control methods since March 1972, the Department of Livestock believes it is necessary to continue a predatory animal control program in Montana.

B. Probable Impact: The intended impact of the predatory animal control program will create more favorable environmental situations for human needs where there is unacceptable conflict with certain predator species. By reducing conflicts between man and predators, the program improves livestock production and reduces the potential for disease transmission.

The program will not result in any significant reduction in the range of beneficial uses, nor will it permanently reduce target or non-target species numbers to the point of eliminating human enjoyment of these species. While the number of individual predatory animals may be reduced in certain specified areas where there is a need for reduction, adjacent areas of non-control will assure maintenance of the species for beneficial uses. While care will be taken to protect all non-target species populations, special considerations will be taken for species recognized as rare or in danger of extinction.

It is often alleged that the removal of predators will cause a rodent eruption. Although predators exert some pressure on rodent populations, it is physically impossible for these predators to catch and eat enough rodents to suppress such a population. In nature, predators are not often effective in strongly reducing prey populations; the conditions of the range and prey food are often more important (Cain, 1972:110). When conditions are right, prey species multiply regardless of the number of predators present. Rodents have a much greater reproductive potential than do their predators.

The proposed predatory animal control program will benefit and enhance Montana's livestock industry charged with the responsibility of contributing to the production of food and fiber to feed and clothe the people of this nation. The industry could not continue to discharge this responsibility in an unhealthy economic climate. Continued loss of domestic livestock and poultry would make continued production an impossibility if what limited predator control methods now available are not used to the fullest benefit.

C. Relationship Between Short-Term and Long-Term Effects: The proposed program, with methods employed, will result in short-term reduction of specific problem predators in specific locations for both short-term economic gain and other immediate public health benefits. The public will also benefit from this program by increased availability of related food and fiber materials and the reduced cost of these products. This program will contribute to the maintenance and enhancement of long-term resources (livestock and predators) productivity and enjoyment. In no event will the program be detrimental to the long-term benefits of the environment.

D. Irreversible and Irretrievable Commitment of Resources: To carry out a continued program of predatory animal control in Montana, with due regard to the environment, no irreversible and irretrievable commitment of resources is expected. Obvious resources utilized in predator control programs will be manpower, fuel and cost. Fuel consumption is a critical factor, but will be regulated by availability.

E. Probable Adverse Environmental Effects: No adverse environmental effects will occur or are anticipated as a result of the predatory animal control program as proposed. There will be no established, detrimental effects on humans or their immediate environment. Control methods will be used with such care and under such rigid regulations that any adverse environmental effects are extremely unlikely. The number of depredating animals taken will not affect the capacity of any species to perpetuate itself; in fact, the principal target species of predatory animal control -- the coyote -- will remain throughout all areas presently inhabited.

V. ALTERNATIVES

A. State-Cooperative Program: This alternative as stated in the Description of the Project Section, is recommended. The Montana Department of Livestock would fulfill its commitment by law for predatory animal control under cooperative project agreements with federal, state, local county governments and livestock organizations for the protection of domestic livestock and poultry and to alleviate problems caused by those species which may endanger human health or safety. Continued evaluation, research and recommendations by those directly or indirectly effected is incorporated within the program.

B. Use of Predacides: The use of predacides for controlling predatory animals is a supplemental alternative. Adequate laws are presently being implemented to provide for selective, safe, efficient and humane use of predacides. These laws and agencies responsible are as follows:

1. Federal Insecticide, Fungicide and Rodenticide Act, 1964; and the Federal Environmental Pesticide Control Act of 1972 -- United States Environmental Protection Agency.

2. Montana Pesticides Act, 1971 -- Montana Department of Agriculture, Pesticides Division.

3. Montana Environmental Policy Act, 1971 -- Montana Environmental Quality Council.

Implementation of toxicants to supplement present shooting, trapping, and denning control methods is necessary in specific localities in order to provide adequate protection for domestic livestock and human health.

The M-44 (sodium cyanide ejecting device) has been tested and developed as a predacide; however, the U.S. Environmental Protection Agency has not registered the product for usage. There is currently no satisfactory, effective alternative material or method of controlling certain coyotes to supplement the current program of trapping, aerial hunting, shooting, snaring, calling, and denning. The alternative of using predacides (principally the M-44 device) in Montana's predatory animal control program is strongly recommended, only when compliance with previously mentioned laws are adhered to. This alternative is recommended in conjunction with Alternative A.

C. Extension Trapping: It has been suggested that the extension trapping approach (Sampson and Brohn, 1955; Newby and Brown, 1958; Geir, 1968) be utilized as an alternative to the State Cooperative Program. Extension trapping is of value east of the Mississippi River where landholdings are usually small and privately owned and where damage is usually confined to problems that an individual can easily handle. The extension approach, which relies on private individuals to conduct the necessary control program is not appropriate over most of Montana, where

lands are expansive and often Federally owned.

Most predation problems are continuous and cannot be effectively and safely handled by individual citizens. For these reasons such an alternative is not recommended on a statewide basis. However, extension trapping conducted in areas of Montana where landholdings are small and privately owned, and where the predators of concern are small carnivores such as skunks and raccoons, the program may have merits and should be explored.

D. Non-lethal Control Techniques: Non-lethal predatory animal control methods are adversive agents, odor repellents, annoying sounds, chemosterilants, and fences. None have been developed and scientists are not optimistic for new non-lethal methods of prevention in the near future. This alternative is recommended as scientists develop and prove their methods satisfactory for preventing depredation.

E. Sport Trapping and Hunting: The harvest of predatory species by hunters and trappers is an important recreational sport in Montana. In relatively open, flat areas these sportsmen may have some reductional effect on predator populations. However, in more rugged terrain success is limited.

The application of sport hunting and trapping to the livestock-predator relationship may have an effect on the livestock loss situation. Sporting activities are generally localized due to accessibility to an areas, and are dependent on the area in which a sportsman lives. In these areas, sport hunting and trapping may help prevent livestock losses from predators; however, this alternative is not extremely beneficial since sportsmen will not travel long distances to harvest particular troublesome predators.

Sport hunting and trapping is recommended in conjunction with Alternative A, when employed in specific locations and in accordance with program purpose and objectives.

F. Sheep Management Practices: It has been suggested that sheep producers develop better management practices for raising sheep, particularly concerning lambing in sheds or home lots rather than in open ranges. Many individuals remove sheep from ranges prior to lambing to reduce predation losses. Other suggestions include raising sheep in feedlots as is done with cattle, or removing sheep from pastures or ranges where persistent losses occur. These methods do not seem applicable from an economic standpoint. This would mean many range areas would not be utilized to their fullest benefit (Luoma, 1973). In addition, other ranges can only be utilized by sheep and not by cattle. This alternative is not recommended.

G. Compensation for Sheep Losses: Reimbursement payments to ranchers for losses of sheep to predators is a suggested alternative. Such payments could become exceedingly costly in the absence of any control methods. Likewise such losses would have to be verified, which in some states requires a signed affidavit from a neighboring rancher. Other interest groups often question such losses and often suspect dishonesty.

Some insurance companies have attempted to provide policies covering livestock losses to predators (Cain, 1972:76); however, no insurance company is underwriting such a policy in Montana. If a company does attempt to provide livestock loss coverage due to predation in the future, this alternative should be considered.

H. State-County Financed Predatory Animal Control Programs: The Montana Department of Livestock and cooperating counties would enter into an agreement for the purpose of controlling predatory animals causing damage to domestic livestock and poultry for a fiscal year. These counties would agree to pay all salaries and expenses incurred and the Department of Livestock would agree to reimburse the counties for such expenditures up to a maximum of funding available to said counties from mill levy taxation on livestock and Fish and Game monies appropriated to the Department of Livestock for predatory animal control. In addition the Department of Livestock would agree to train and supervise the trappers employed in the counties, and to supervise aerial hunting activities.

A County Predatory Animal Control Board would be established in each county representing those agencies or organizations providing funding for the program. The Department of Livestock would meet as a representative with each Board to formulate a practical predatory animal control program in each county participating. Assuming the same, or increased, level of control and equal or greater competence, the total environmental effects would remain the same.

Administration, supervisory and clerical costs incurred by the Department of Livestock in the State-County Financed Predatory Animal Control Program would be budgeted from mill levy taxation on livestock for predatory animal control. Additional sources of funding include local county governments, local livestock organizations, county revenue sharing monies, the state legislature and others. This program is recommended only if the U.S. Department of Interior is withdrawn from the program either by Congressional or State action.

I. State Bounty Program: The bounty has been a widely used method of predator control. The bounty system is based on the concept that the level of livestock depredations rises and falls with the population of the predatory species. There is general agreement that the bounty payment neither reduces the total predator population, nor livestock damage caused by predation. The bounty is believed to encourage fraud, is wasteful of money, promotes inefficiency and functions as a subsidy to trappers (Gerstell, 1941; Allen, 1963 and Gier, 1968).

The Montana Department of Livestock is authorized to administer and expend funds for predator control, including bounties, under R.C.M. 1947, Section 46-1903. Although the Department of Livestock has the authority, it is not recommended that this method of control be employed.

J. No Predatory Animal Control: The obvious alternative is no predatory animal control program. This alternative is not desirable because it implies no protection for domestic livestock and poultry from predatory

animals and man from rabies. If no predatory animal control program was employed by State and Federal authorities, private individuals would be forced to conduct their own programs. There is a strong likelihood of indiscriminate and biologically unsound control on a prophylactic basis resulting in permanent adverse effects, to both wildlife and the environment in general. Therefore, this alternative is not recommended.

VI. SUMMARY

The Montana Department of Livestock recognizes that the ecological impact of predatory animal control is very complex and is continually striving for solutions which will provide for both human health and domestic livestock protection, while maintaining environmental quality. The Department of Livestock also acknowledges that predators are resources of inherent interest and value to the people of Montana and our Nation, but also recognizes the parallel need and responsibility for conducting a Montana Predatory Animal Control Program where resource conflict situations develop. Therefore, the proposed Predatory Animal Control Program, as described in Section II. - Description of Project, is strongly recommended by the Montana Department of Livestock.

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APPENDIX 1

15. PREDATORY MAMMAL CONTROL PROGRAM

1931 Predator Control Act

Section 426. Predatory and other wild animals; eradication and control; investigations, experiments, and tests by Secretary of Agriculture; cooperation with other agencies

The Secretary of Agriculture is authorized and directed to conduct such investigations, experiments, and tests as he may deem necessary in order to determine, demonstrate, and promulgate the best methods of eradication, suppression, or bringing under control on national forests and other areas for the public domain as well as on State, Territory, or privately owned lands of mountain lions, wolves, coyotes, bobcats, prairie dogs, gophers, ground squirrels, jack rabbits, and other animals injurious to agriculture, horticulture, forestry, animal husbandry, wild game animals, fur-bearing animals, and birds, and for the protection of stock and other domestic animals through the suppression of rabies and tularemia in predatory or other wild animals; and to conduct campaigns for the destruction or control of such animals: Provided, That in carrying out the provisions of this section the Secretary of Agriculture may cooperate with States, individuals, and public and private agencies, organization, and institutions. Mar. 2, 1931, c. 370, 1,46 Stat. 1468.

Library references: Agriculture 2,9; C.J.S. Agriculture 6,30 et.seq.

Historical Note

Transfer of Functions. Functions of Secretary of Agriculture administered through the Bureau of Biological Survey, relating to conservation of wildlife, game, and migratory birds were transferred to Secretary of Interior by 1939 Reorg. Plan No.II, 4(f), eff. July 1, 1939, set out in note under Section 1331 of Title 5, Executive Departments and Government Officers and Employees. See also sections 401-404 of said plan for provisions relating to transfer of functions, records, property, personnel, and funds.

APPENDIX 2

OFFICE OF THE WHITE HOUSE PRESS SECRETARY

THE WHITE HOUSE

EXECUTIVE ORDER

ENVIRONMENTAL SAFEGUARDS ON ACTIVITIES FOR ANIMAL DAMAGE CONTROL ON FEDERAL LANDS

By virtue of the authority vested in me as President of the United States and in furtherance of the purposes and policies of the National Environmental Policy Act of 1969 (42 USC 4321 et seq.) and the Endangered Species Conservation Act of 1969 (16 USC 668aa), it is ordered as follows:

Section 1. Policy. It is the policy of the Federal government to (1) restrict the use on Federal lands of chemical toxicants for the purpose of killing predatory mammals or birds; (2) restrict the use on such lands of chemical toxicants which cause any secondary poisoning effects for the purpose of killing other mammals, birds, or reptiles; (3) restrict the use of both such types of toxicants in any Federal programs of mammal or bird damage control that may be authorized by law. All such mammal or bird damage control programs shall be conducted in a manner which contributes to the maintenance of environmental quality, and to the conservation and protection, to the greatest degree possible, of the Nation's wildlife resources, including predatory animals.

Section 2. Definitions. As used in the order, the term: (a) "Federal lands" means all real property owned by or leased to the Federal Government, excluding (1) lands administered by the Secretary of the Interior pursuant to his trust responsibilities for Indian affairs, and (2) real property located in metropolitan areas.

(b) "Agencies" means the departments, agencies, and establishments of the executive branch of the Federal Government.

(c) "Chemical toxicant" means any chemical substance which, when ingested, inhaled, or absorbed, or when applied to or injected into the body, in relatively small amounts, by its chemical action may cause significant bodily malfunction, injury, illness, or death, to animals or man.

(d) "Predatory mammal or bird" means any mammal or bird which habitually preys upon other animals or birds.

(e) "Secondary poisoning effect" means the result attributable to a chemical toxicant which, after being ingested, inhaled, or absorbed, when applied to or ingested into a mammal, bird, or reptile, is retained in its tissue or otherwise retained in such a manner and quantity that the tissue itself or retaining part if thereafter ingested by man, mammal, bird, or reptile, produces the effects set forth in paragraph (c) of this section.

(f) "Field use" means use on lands not in, or immediately adjacent to, occupied buildings.

Section 3. Restrictions on Use of Chemical Toxicants.

(a) Heads of agencies shall take such action as is necessary to prevent on any Federal lands under their jurisdiction, or in any Federal program of mammal or bird damage control under their jurisdiction:

(1) the field use of any chemical toxicant for the purpose of killing a predatory mammal or bird; or

(2) the field use of any chemical toxicant which causes any secondary poisoning effect for the purpose of killing mammals, birds, or reptiles.

(b) Notwithstanding the provisions of subsection (a) of this section, the head of any agency may authorize the emergency use on Federal lands under his jurisdiction of a chemical toxicant for the purpose of killing predatory mammals or birds, or of a chemical toxicant which causes a secondary poisoning effect for the purpose of killing other mammals, birds, or reptiles, but only if in each specific case he makes a written finding, following consultation with the Secretaries of the Interior, Agriculture, and Health, Education, and Welfare, and the Administrator of the Environmental Protection Agency, that any emergency exists that cannot be dealt with by means which do not involve use of chemical toxicants, and that such use is essential:

(1) to the protection of the health or safety of human life;

(2) to the preservation of one or more wildlife species threatened with extinction, or likely within the foreseeable future to become so threatened; or

(3) to the prevention of substantial irretrievable damage to nationally significant natural resources.

Section 4. Rules for Implementation of Order. Heads of agencies shall issue such rules or regulations as may be necessary and appropriate to carry out the provisions and policy of this order.

RICHARD NIXON

THE WHITE HOUSE
February 8, 1972

APPENDIX 3

ENVIRONMENTAL PROTECTION AGENCY
PESTICIDES OFFICE
WASHINGTON, D. C. 20250

March 9, 1972

PR Notice 72-2

Pesticides Regulation Division

NOTICE TO MANUFACTURERS, FORMULATORS, DISTRIBUTORS AND REGISTRANTS OF ECONOMIC POISONS

Attention: Person Responsible for Federal Registration of Economic Poisons

Suspension of Registration for Certain Products Containing Sodium Fluoroacetate (1080), Strychnine and Sodium Cyanide

I.

Last spring, this Agency made a public commitment to review the status of registrations for strychnine, cyanide, and sodium fluoroacetate (1080), for use in prairie and rangeland areas for the purpose of predator and rodent control. This commitment grew out of grave concern surfaced by the reported deaths of some 20 eagles killed by the misuse of thallium sulfate.1/

This same concern caused the Secretary of the Interior to initiate a thorough review of the government's federal predator control program. An advisory committee was appointed under the chairmanship of Dr. Stanley Cain, Director, Institute for Environmental Quality and Professor of Botany and Conservation

1/ This concern predates last summer. In 1963 the Secretary of Interior appointed an Advisory Board on Wildlife and Game Management chaired by Dr. Leopold of the University of California.

at the University of Michigan. The report of that advisory committee was released earlier this month.

Aside from this Agency's review and the Cain findings, a detailed petition has been submitted to this Agency by several distinguished conservation groups urging that the registrations of these compounds be cancelled and suspended immediately. That petition invoked the Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. § 135, Section 2z(2)(c) which requires that an economic poison contain "directions for use which are necessary and if complied with, adequate to prevent injury to living man and other vertebrate animals. . .," and Section 4c which allows the Administrator to initiate cancellation proceedings by ordering immediate suspension "when he finds that such action is necessary to prevent an imminent hazard to the public."[2/]

Based on this Agency's review of the registrations of sodium cyanide, strychnine, and 1080 in light of available evidence, I am persuaded that their registrations for predator uses should be suspended and cancelled.

2/ Sponsors of the petition were: The Natural Resources Defense Council, Defenders of Wildlife, Friends of the Earth, The Humane Society of the United States, National Audubon Society, Inc., New York Zoological Society, the Sierra Club, and the National Parks and Conservation Association.

II.

The Cain group has dealt at length with the effects of the use of strychnine, cyanide, and 1080 for predator control. The report points out the extreme toxicity of these compounds, their non-selectivity, and their potential impact on the environment which "is increased by secondary hazard, accumulation in the animal, and combined characteristics of chemical stability and solubility in water." This report reconfirms the findings of the Leopold Report (see 1/, supra) that the predator control program took a heavy environmental toll.

Cyanide, strychnine, and 1080 are among the most toxic chemicals known to man. They act quickly, spreading through an entire animal crippling the central nervous system. These poisons are toxic not only to their targets but other animals and wildlife. All of these poisons have a similar pattern of use as unattended baits and are spread over vast areas of open prairie.

In the case of strychnine use against badgers, coyotes, and foxes, a tablet containing the poison is placed inside a one-inch ball or cube of bait material such as meat, lard or tallow. These baits are left along animal trails or near non-game carcasses. While instructions caution the user to cover the baits over with chips or brush to avoid ingestion by non-target animals, the Cain

Report has suggested the inadequacy of such directions.[3/]

The pattern for cyanide use differs little in pertinent respects. An explosive gun, a "coyote-getter," charged with cyanide is baited and driven into the ground. The gun is left unattended along the trail or range and is triggered when an animal pulls at the bait. In the case of 1080, carcasses of dead animals are laced with the substance and strewn to attract the predator.

Indiscriminate baiting over wide unpoliced areas poses two obvious ard recognized threats to non-target animals that share the ranges as a natural habitat. The unsupervised bait is itself a potential killer of non-target range species. The threat, however, is compounded by the extremely high toxicity of these poisons, which can transform the predator carcass into a potential lethal killer of prairie animal life.

While the effects of prairie baiting are, for the most part, not documented, the Cain group has suggested the present evidence may well understate the true damage. It is appropriate to take

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3/ According to the Cain Committee, if toxicants were consistently applied under field conditions with meticulous case, it is possible undesirable side-effects might be avoided. Draft at 131. However, the Committee concludes, "It appears that the necessary high standards are not likely to be attained." (Draft at 115) The Committee found no reliably precise data is available showing the degree of predator control achieved or the possible loss that might ensue without any program.

administrative notice of the fact that isolated accidents involving wildlife are not apt to be reported. Isolated, even if routine and numerous, instances of secondary animal poisoning would not have the visibility of a wildlife "kill," nor is there apt to be an observer present as in the case of human mishap. The administrative process need not be blind to these realities. This Agency's Pesticides Registration Division has, moreover, reports of cases of alleged secondary and accidental poisoning, and recently range-use of 1080 has been suspected of killing birds, including some of our rare species.

Measured against these obvious threats to wildlife are only ill-defined and speculative benefits. The Cain Committee has noted the absence of any meaningful information on the efficacy of poison baiting, especially in relation to the economic loss caused by predators to the sheep industry. At least one state, Nevada, has estimated that the cost of predator control was ten times the value of livestock and poultry lost to predators.

This absence of any meaningful data of benefits derived from the use of these highly dangerous poisons which pose a marked potential threat to the environment renders these registrations suspect. It is now settled that the burden of proof rests on the poison. The report, moreover, specifically cites the greater selectivity of ground shooting, denning, and trapping, and the Department of the Interior is embarking on a study to determine other methods of control. Here, where it is known that alternative

methods of control exist, the registrations must be seriously questioned.

III.

In deciding whether or not these considerations justify suspension, it must be recognized that the concept of suspension is one that must evolve, and existing verbal tests are not readily translated into a decisive cue for action. The Federal Insecticide, Fungicide and Rodenticide Act, and the judicial and administrative constructions of it to date set forth only word formulas that establish a general attitude on suspension questions. Each situation must be scrutinized not only for what is involved, but also for what is not involved.

Turning to the verbal tests by which we must measure the use of these poisons, FIFRA provides that the Administrator of EPA "may, when he finds that such action is necessary to prevent an imminent hazard to the public, by order, suspend the registration of an economic poison immediately." "Public" is not to be viewed restrictively, and includes fish and wildlife, as has recently and forcefully been noted in an opinion of a federal court. See EDF v. Ruckelshaus, 439 F.2d 584, at 597. Nor does "imminent" mean that we are on the "brink" and that the harm

will occur tomorrow or has been documented.[4/] It is sufficient that reasonable men can conclude that action taken today will with reasonable certainty lead to a loss in the future and that loss will be irremediable and uncorrectable by subsequent action, and that the apparent benefits from using a chemical, pending the complete statutory review process, are outweighed by the possible harm of use during the period.[5/] Or, as the matter was put in the Agency's DDT policy statement of March 18, 1971, the type, extent, probability and duration of such injury will be measured in light of the positive benefits accruing from use of the economic poison, for example, in human or animal disease control or food production.

Bearing these principles in mind, I am persuaded that a definite hazard exists. While the mere toxicity of poisons does not, under FIFRA, render them a hazard, their degree of toxicity

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4/ "An 'imminent hazard' may be declared at any point in a chain of events which may ultimately result in harm to the public. It is not necessary that the final anticipated injury actually have occurred prior to the determination that an 'imminent hazard' exists." Reasons Underlying the Registration Decisions Concerning Products Containing DDT, 2,4,5-T, Aldrin and Dieldrin, at 6.

5/ The cancellation proceeding involving the possibility of both a scientific advisory committee and public hearing consumes at least one year. In actual fact, these proceedings have generally taken considerably more than a year.

and pattern of use may well do so. The unattended and unsupervised use of poisons over large areas of land, by definition, poses a hazard to non-target species. The fact that label instructions contain directions for placing the baits at times and in areas least likely to be populated by non-target species and for policing them, affords slight, if any comfort. This Agency has on prior occasions taken into account a "commonly recognized practice" of use (see In Re Hari Kari Lindane, I.F.&R. (Docket #6), and has noted that the likelihood of directions being followed may affect their adequacy (see In Re King Paint, 2 ERC 1819 (1970)); In Re Stearns, 2 ERC 1364 (1970).

The hazards from the pattern of use for these chemicals is not remote or off in the distant future. The prairies and ranges are populated by numerous animals, some of which are becoming rare. At jeopardy are potentially endangered species. Each death to that population is an irremediable loss and renders such species closer to extinction.

No apparent circumstances exist to counterbalance this distinct hazard and suggest that the possibility of irremediable loss is outweighed by the harm that might occur from their nonavailability during a period of suspension. The situation might well be different were the removal of these poisons from the

market likely to affect human health or the supply of a staple foodstuff; or were there no apparent alternatives available, the balance might be differently struck. This, however, is not true.

I am hereby affixing findings of fact and an order suspending and cancelling these chemicals for use in predator control.

MAR 9 1972

William D. Ruckelshaus
Administrator

FINDINGS OF FACT

Cyanide

1. Two products in the form of shells containing sodium cyanide are currently registered for explosive devices designed to kill coyotes that may prey on sheep. The device is simply a cyanide charge placed in a baited cylinder and driven into the ground. When the animal pulls at the bait the charge explodes into its mouth. Only one of the shell products is registered for use by the general public. The Division of Wildlife Services of the Department of the Interior has probably been the largest user of such devices.

2. Sodium cyanide is a water-soluble white solid which reacts with acids to form hydrogen cyanide gas. This chemical is among the most toxic and rapidly acting of all known poisons.

3. Persons overcome by gas either die very rapidly from respiratory failure or recover completely within a relatively short time.

4. Ingestion or inhalation of a very low dose (as little as 300 micrograms per litre of air) may rapidly result in death.

5. There is no true effective antidote.

6. Recent data show four incidents involving cyanide compounds in fiscal year 1970 in three of which human beings were injured by the discharge of cyanide guns placed in fields. Only

quick thinking on the part of all three victims in seeking immediate medical aid prevented any loss of life.

7. There is evidence that dogs have been subjected to poisoning by cyanide (used as outlined above) which is highly toxic to all wildlife and domestic animals.

Strychnine

8. Currently at least six products containing strychnine in tablet and technical powder form are registered for use in baits against coyotes and wolves.

9. The technical powder form is for reformulation and repackaging, and is for use only by professional pest control operators and government agencies.

10. The tablets are available on the open market.

11. Strychnine is an extremely bitter-tasting white crystal.

12. It is a complex, naturally occurring, organic compound which would probably bind to soil readily and decompose over a period of time, although information on the persistence of strychnine and its effect on the environment is somewhat limited.

13. Strychnine is highly toxic to humans and animals, with 30 mg. considered as a threat to the life of an adult man. Death has, however, been reported with as little as 5 to 10 mgs., and animal life may be acutely poisoned by ingestion of small amounts.

14. Strychnine acts by interfering with normal neural processes, causing exaggerated muscle contraction and violent convulsion. Death in a rather gruesome form due to respiratory failure soon follows unless the seizures are controlled.

15. There is no true effective antidote.

1080 (Sodium Fluoroacetate)

16. Four products containing 1080 are currently registered for use as mammalian predacides.

17. Use is restricted to areas west of the 100th meridian, and then only by Division of Wildlife Services personnel, or under their direct supervision.

18. 1080 is a white powder, soluble in water, very stable, and thus very persistent in ground water.

19. 1080 is highly toxic to all species. The dangerous dose for man is 0.5 - 2 mg/kg. The chemical acts rapidly upon the central nervous and cardiovascular systems with cardiac effects. Effect is usually too quick to permit treatment, and antidotes are relatively valueless.

20. According to one authority, prior to 1963 there were 13 proven fatal cases, five suspected deaths, and six non-fatal cases of 1080 poisoning in man, although it is not clear to what extent predator control materials were implicated.

21. There is evidence that a certain number of non-target animals are being adversely affected by 1080 products, particularly, in the case of carrion eating birds and mammals, by secondary poisoning. It is not clear, however, how various animal populations are being affected, although 1080 is thought to have contributed to the death of at least one California condor, an endangered species.

Benefits

22. There is no reliable data as to the amount of predator control achieved by the use of these poisons.

23. There is no reliable data as to the loss of sheep that might occur without a predator control program using these poisons, or of the real effect of such losses on the general economic health of the sheep industry. Certain data that are presently available indicate predator losses may in fact be of such a low magnitude as to be a minor part of total losses. The Cain Report suggests that among other reasons for the decline of the sheep industry may be competition from synthetic fibers and from lot-fed livestock.

24. For the maintenance of predator control programs, especially in the sheep industry, effective non-chemical alternatives exist, including denning, shooting and trapping, methods that have long been available and effective, though more costly than poisons.

25. The Federal Government has committed itself to a research program for methods of controlling predators other than poisons.

CONCLUSION

The predator use of the foregoing chemicals presents an imminent hazard such as to warrant their suspension pursuant to § 4(c) of the Federal Insecticide, Fungicide and Rodenticide Act.

ORDER

In accordance with the attached opinion and findings, it is hereby ordered that the registration for all products containing sodium fluoroacetate (1080), sodium cyanide or strychnine for use against mammalian predators be cancelled and suspended immediately.

Registrations for those products bearing directions as listed above are hereby suspended and the products may not be legally shipped in interstate commerce until labeled to block out instructions for predator use.

MAR 9 1972

William D. Ruckelshaus

William D. Ruckelshaus
Administrator

APPENDIX 4

COOPERATIVE AGREEMENT

THIS AGREEMENT, entered into between the U. S. Fish and Wildlife Service, the Bureau of Sport Fisheries and Wildlife, of the United States Department of the Interior, hereinafter known as the "Bureau" and the Montana Live Stock Commission, hereinafter known as the "Cooperator",

WITNESSETH, that,

WHEREAS, the Bureau is authorized by the Act of March 2, 1931 (46 Stat. 1468) and the Act approved August 14, 1946 (60 Stat. 1080), to provide assistance to and cooperate with states, individuals and public and private agencies, organizations and institutions in the control of predatory animals and rodents injurious to agriculture, horticulture, forests, animal husbandry and wild game, and;

WHEREAS, the Montana Live Stock Commission is authorized by as follows: Section 3417.2, Chapter 298, Revised Codes of Montana, 1935, and Section 2, Chapter 136, Laws of Montana, 1949, to cooperate with the Bureau in the control of predatory animals that destroy fish, game or fur-bearing animals, or game or non-game birds, or rodents, and have funds available for those purposes,

NOW, THEREFORE, IT IS MUTUALLY AGREED AS FOLLOWS:

1. A program for the control of predatory animals and rodents will be undertaken in the State of Montana, and all operations as provided for by this agreement shall be under the direct supervision of the Bureau, in order that the work may be conducted in accordance with the latest improved practices and correlated with predator control programs carried on in adjacent areas.

2. The Regional Director or his designee, acting as the authorized representative of the Director of the Bureau shall confer annually, prior to the commencement of each fiscal year, with representatives of the Commission and agree in writing upon the program for the forthcoming year, including extent, types and area of program, financing, employment and fixing of compensation of personnel, and other general operating and financial details. The District Agent of the Bureau as program representative of the Regional Director, shall confer frequently with representatives of the Montana Live Stock Commission on details of operating the program.

3. To accomplish the intent and purpose of this agreement, the Bureau will finance the program from Bureau funds, including payments for salaries, auto mileage, supplies, equipment and other pertinent and necessary expenses. Costs of the program will be borne by the parties in the ratios agreed upon at the time of development of the program as provided in Section 2 hereof and the Bureau will render billings against each Cooperator for his share as hereinafter provided.

4. Bureau funds shall be expended in accordance with the laws, regulations, policies and practices applicable to the Bureau. Hunters and other field personnel employed in the program set forth in this agreement shall be Federal employees and subject to Federal laws, regulations and policies pertaining thereto. The salary rates of employees engaged in work under this agreement shall be fixed and reviewed at least annually by wage negotiation in accordance with existing procedures approved by the Secretary of the Interior on March 6, 1958. The rates for personal property and equipment used by such employees shall be fixed and reviewed at least annually by the parties to this agreement not later than ninety (90) days before the beginning of the fiscal year.

5. All equipment classified as major accountable property shall be purchased from federal funds and reimbursement not claimed from the Cooperator.

6. Claims to be submitted to the Cooperator for reimbursement will be presented monthly by the Bureau in the manner and on such forms as may be required by the Cooperator and payment therefor by the Cooperator shall be accomplished within thirty (30) days after date of billing. Authorized auditing representatives of the Cooperator shall be accorded reasonable opportunity to inspect the accounts and records of the Bureau pertaining to such claims for reimbursement to the extent permitted by the laws and regulations of the United States.

7. The Bureau shall dispose of animals or pelts of value by private sale of individual specimen skins by sealed bids to the highest bidder or through an established fur auction house and the proceeds of such sales shall be pro-rated between and paid to the parties to this agreement in the same ratio as the amount of funds each party hereto contributes to the program.

8. The Regional Director of the Bureau or his designee shall submit to the cooperating party or parties to this agreement an annual report at the end of each Federal fiscal year, including the following:

(a) A complete financial statement showing all expenditures made in carrying out this project.

(b) A summary of the findings, needs for future work, and information of interest and value to the program of control.

(c) A complete record of all personnel and employed and an outline of work accomplished, and any other pertinent information.

Special reports will be rendered at any time upon request by the Commission, and in all reports and publications due credit shall be given to each of the parties hereto cooperating in said project.

9. This agreement and any continuation thereof shall be contingent upon the availability of funds appropriated by the Congress of the United States and funds available to the Livestock Commission for the purpose of this agreement, and the State of Montana shall not be obligated in any amount in excess of funds available in the bounty fund or made available to the fund for any biennium.

10. Non-discrimination clause: In connection with the performance of work under this agreement each party agrees that he shall not discriminate against any employee or applicant for employment because of race, religion, or color, or national origin. The aforesaid provision shall include but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; lay-off or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The parties agree to post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Bureau setting forth the provisions of the non-discrimination clause.

11. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

12. This agreement rescinds the current agreement dated July 11, 1950 and shall be in effect from July 1, 1958 to June 30, 1959 but shall automatically renew itself annually thereafter unless written notice to the contrary is given by either party to the other party ninety (90) days in advance of the anniversary date. Upon termination of this agreement the Cooperator shall reimburse the Bureau for their proportionate share of all obligations created by the Bureau as a result of this agreement and not previously reimbursed. In addition, any costs incurred as a result of the liquidation of this agreement shall be prorated between the parties to the agreement in proportion to their annual contribution to the program.

IN WITNESS WHEREOF the duly authorized officers of the parties hereto have executed this agreement on the dates shown opposite their respective signatures.

June 2, 1958
(Date)

Wm. J. Cheney
Executive Officer,
Montana Live Stock Commission

JUL 2 1958
(Date)

Lansing A. Parker
Assistant Director, U. S. Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife

Montana Cooperative Agreement No. 1, effective July 1, 1958 is hereby amended as follows:

Delete paragraph 7 in its entirety and replace with the following:

> All predatory animals captured shall become property of the Cooperators. The Bureau representative shall dispose of animals or pelts of value by sale, in a manner agreeable to the Cooperators, and shall transmit the proceeds of such sales to the designated representative of the agency concerned in the proportion as agreed to when planning the yearly program as provided in paragraph 2.

IN WITNESS WHEREOF the duly authorized officers of the parties hereto have executed this agreement on the dates shown opposite their respective signatures.

Dec. 20, 1958
(Date)

Wm J. Cheney
Executive Officer,
Montana Live Stock Commission

FEB 5 1959
(Date)

By
Regional Director,
Bureau of Sport Fisheries and Wildlife

INTER-AGENCY AGREEMENT

PREDATORY ANIMAL PROGRAM

THIS AGREEMENT, entered into this 16 day of June, 1972, by and between the MONTANA DEPARTMENT OF LIVESTOCK, an agency of the State of Montana (hereinafter referred to as "Livestock") and the MONTANA STATE FISH AND GAME COMMISSION, an agency of the State of Montana (hereinafter referred to as "Fish and Game"):

W I T N E S S E T H :

WHEREAS, Livestock is the agency of the State of Montana which is charged with the primary duty and responsibility of formulating practical programs for accomplishing the destruction and control of predatory animals within the state of Montana under, and by virtue of, Section 46-1903 of the Revised Codes of Montana, 1947; and

WHEREAS, Livestock is expressly authorized and empowered and directed to cooperate with certain agencies, including Fish and Game, in said program of destruction and control; and

WHEREAS, Fish and Game, by motion duly moved, seconded and adopted on April 21, 1972 has agreed to establish an agreement with Livestock to cooperate in a program to contain verified rabies epidemic and to control individual stock-killing predators and has further authorized the budgeting of the sum of Forty Thousand Dollars ($40,000.00) for the fiscal1 year 1972-1973 to assist in financing the above program provided that no poisons are to be employed for the purpose of controlling stock-killing predators and that any predator and rodent control program conducted in cooperation with Fish and Game shall fully meet all of the provisions of the Montana Environmental Policy Act of 1971 and the provisions of the action and order made by

President Richard Nixon by virtue of the Executive Order issued by President Nixon regarding predator control on Federal lands, said Executive Order being dated February 8, 1972.

1. Fish and Game agrees as follows:

A. To budget and expend the sum of Forty Thousand Dollars ($40,000.00) during the fiscal year 1972-1973 to assist in the financing of the program, conducted by Livestock, to contain verified rabies epidemics and to control individual stock-killing predators in accordance with the provisions of this agreement hereinafter stated, and subject to said provisions.

B. Subject, to the provisions of this agreement to cooperate with Livestock and to administer and expend the funds hereinabove provided for and in a manner as to expedite and facilitate the program of Livestock, as hereinabove stated.

2. Livestock agrees as follows:

A. No funds provided by Fish and Game hereunder shall be used and no claims against such funds shall be incurred for the purchase, application or distribution of any poisons.

B. Any predator and rodent control program conducted by Livestock hereunder shall fully meet all of the provisions of the Montana Environmental Policy Act of 1971 and the Executive Order issued by President Nixon regarding predator control on Federal lands, said Executive Order being dated February 8, 1972.

C. Livestock will provide and submit to Fish and Game Quarterly Reports containing complete and current

information as to the programs conducted hereunder, the methods thereof and the progress thereof.

D. On or before March 15, 1973, Livestock will submit to Fish and Game a report of all funds committed to, or claims incurred for, containment of verified rabies epidemics and no Fish and Game funds shall be committed for, or claims submitted for, such rabies epidemic control after March 31, 1973. As to the verification of rabies epidemics, complete information and report shall be submitted to the Fish and Game prior to the committment of Fish and Game funds therefor or any claims therefor are submitted for such program.

E. All programs conducted by Livestock relating to the verified rabies epidemic control program will meet the safety standards as established and agreed upon, heretofore, by the Bureau of Sports Fisheries and Wildlife, the Department of Livestock and the Montana State Department of Health and Environmental Sciences.

3. Fish and Game and Livestock agree that Fish and Game funds, provided for herein, shall be administered and expended by the Fish and Game and the program, provided for herein, shall be administered by Livestock in accordance with the following:

A. Supplies, equipment or services upon which such funds are to be expended shall be compensated for pursuant to claims duly made by the provider of same submitted, for approval by Livestock, and forwarded to the Fish and Game for payment. Such claims shall be made in the form prescribed, or approved by Fish and

Game.

B. In the event that, in the administration of the aforesaid described programs, Livestock requests Fish and Game to provide, directly, supplies, equipment or personnel for utilization in said programs, the costs or expenses thereof shall be charged to, and deducted from, the Forty Thousand Dollars ($40,000.00) in funds herein provided for.

C. Whether by the providing of supplies, equipment or services by others, or by Fish and Game, the total cost and expense thereof chargeable to the Fish and Game funds, herein provided for, shall not exceed the amount of Forty Thousand Dollars ($40,000.00).

D. During the portion of the term of this agreement extending between July 1, 1972 and April 1, 1973, there shall be reserved from the aforesaid Forty Thousand Dollars ($40,000.00) to be provided by Fish and Game, the amount of Ten Thousand Dollars ($10,000.00) for the express and particular application on costs and expenses incurred for the conducting of the verified rabies epidemic control program. In the event that committment for such stated program for such supplies, equipment or services is not incurred prior to April 1, 1973, the balance remaining in said reserve for such purposes shall be available to the aforesaid predator control program and no further costs or expenses for the rabies control program shall be charged to the Fish and Game funds herein provided for after March 31, 1973.

Dated this 16 day of June, 1972.

STATE FISH AND GAME COMMISSION

ATTEST: Vond L. Brown
Secretary

By Miles B. Rowe
Chairman

APPENDIX 6

REQUESTS FOR SERVICES STUDY
SHEEP LOSS TOTALS
BUREAU OF SPORT FISHERIES AND WILDLIFE
COUNTY WIDE SUMMARY

Fiscal Years 1969-1973
By
Number and Value

	1969		1970		1971		1972		1973		Total	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Beaverhead	156	$ 3,900	90	$ 2,575	137	$ 3,731	210	$ 5,770	279	$ 7,895	872	$23,871
Big Horn	82	$ 1,705	33	$ 845	47	$ 985	105	$ 3,050	76	$ 1,400	343	$ 7,985
Blaine	36	$ 630	40	$ 815	15	$ 405	64	$ 1,645	80	$ 2,265	235	$ 5,760
Broadwater	9	$ 195	59	$ 2,015	34	$ 1,385	23	$ 545	129	$ 2,845	254	$ 6,985
Carbon	60	$ 1,290	76	$ 2,090	81	$ 1,745	80	$ 1,990	147	$ 3,590	444	$10,705
Carter	1	$ 15	0	0	21	$ 300	0	0	50	$ 970	72	$ 1,285
Cascade	89	$ 1,530	89	$ 2,190	101	$ 2,145	125	$ 2,706	164	$ 3,155	568	$11,726
Chouteau	28	$ 435	18	$ 505	9	$ 290	71	$ 1,455	0	0	126	$ 2,685
Custer	124	$ 2,565	156	$ 3,525	124	$ 2,355	132	$ 2,470	161	$ 4,300	697	$15,215
Daniels	0	0	13	$ 230	3	$ 65	11	$ 230	23	$ 655	50	$ 1,180
Dawson	36	$ 695	24	$ 550	24	$ 465	121	$ 2,075	97	$ 2,350	302	$ 6,135
Deer Lodge	15	$ 400	7	$ 155	0	0	5	$ 250	39	$ 715	66	$ 1,520
Fallon	43	$ 640	0	0	9	$ 580	54	$ 1,240	71	$ 1,580	177	$ 4,040
Fergus	120	$ 2,545	61	$ 1,870	36	$ 720	135	$ 2,730	61	$ 1,985	413	$ 9,850
Flathead	4	$ 90	1	$ 40	0	0	0	0	2	$ 80	7	$ 210

	1969		1970		1971		1972		1973		Total	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Gallatin	38	$ 910	58	$ 1,730	55	$ 1,275	79	$ 2,075	78	$ 2,395	308	$ 8,385
Garfield	233	$ 3,810	96	$ 2,115	101	$ 2,180	267	$ 5,835	581	$14,797	1,278	$28,737
Glacier	88	$ 1,920	38	$ 1,045	28	$ 860	14	$ 450	2	$ 65	170	$ 4,340
G. Valley	40	$ 810	7	$ 250	10	$ 275	43	$ 795	17	$ 545	117	$ 2,675
Granite	62	$ 1,310	46	$ 1,310	8	$ 185	12	$ 325	0	0	128	$ 3,130
Hill	33	$ 615	0	0	13	$ 250	15	$ 380	1	$ 40	62	$ 1,285
Jefferson	0	0	2	$ 65	0	0	0	0	0	0	2	$ 65
Judith Basin	14	$ 395	21	$ 670	8	$ 160	30	$ 885	30	$ 605	103	$ 2,715
Lake	36	$ 697	17	$ 685	16	$ 260	73	$ 1,560	32	$ 895	174	$ 4,097
Lewis&Clark	20	$ 335	30	$ 455	18	$ 415	19	$ 625	74	$ 1,745	161	$ 3,575
Liberty	0	0	12	$ 365	8	$ 175	8	$ 175	2	$ 40	30	$ 755
Lincoln	0	0	0	0	0	0	0	0	0	0	0	0
Madison	93	$ 1,720	84	$ 1,980	43	$ 1,190	66	$ 2,030	111	$ 2,800	397	$ 9,720
McCone	9	$ 175	5	$ 115	69	$ 1,465	14	$ 400	225	$ 4,545	322	$ 6,700
Meagher	40	$ 935	53	$ 1,630	82	$ 1,700	13	$ 315	34	$ 830	222	$ 5,410
Mineral	0	0	1	$ 65	0	0	8	$ 115	0	0	9	$ 180
Missoula	10	$ 260	13	$ 405	13	$ 215	21	$ 515	31	$ 1,025	88	$ 2,420
Musselshell	108	$ 1,930	51	$ 1,365	77	$ 1,290	86	$ 1,810	46	$ 990	368	$ 7,385
Park	94	$ 2,005	59	$ 1,855	61	$ 1,405	26	$ 785	49	$ 1,420	289	$ 7,470
Petroleum	46	$ 745	57	$ 1,235	10	$ 155	34	$ 950	71	$ 1,855	218	$ 4,940

	1969		1970		1971		1972		1973		Total	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Phillips	7	$ 135	37	$ 975	53	$ 1,295	128	$ 3,045	82	$ 2,345	307	$ 7,795
Pondera	5	$ 145	27	$ 735	33	$ 860	17	$ 575	15	$ 540	97	$ 2,855
Powder River	32	$ 515	79	$ 1,290	68	$ 1,055	279	$ 4,995	336	$ 8,070	794	$15,925
Powell	60	$ 1,160	18	$ 600	14	$ 265	8	$ 210	35	$ 1,185	135	$ 3,420
Prairie	38	$ 550	30	$ 570	0	0	29	$ 740	72	$ 2,015	169	$ 3,875
Ravalli	11	$ 200	22	$ 595	48	$ 915	54	$ 1,380	136	$ 3,870	271	$ 6,960
Richland	21	$ 300	48	$ 805	40	$ 835	64	$ 1,285	54	$ 1,313	227	$ 4,538
Roosevelt	3	$ 30	0	0	110	$ 1,900	114	$ 2,850	23	$ 365	250	$ 5,145
Rosebud	109	$ 1,980	31	$ 900	116	$ 2,715	93	$ 2,225	236	$ 6,695	585	$14,515
Sanders	38	$ 660	3	$ 105	10	$ 135	20	$ 500	45	$ 1,090	116	$ 2,490
Sheridan	0	0	2	$ 40	0	0	50	$ 770	14	$ 355	66	$ 1,165
Silver Bow	8	$ 115	19	$ 575	3	$ 90	21	$ 405	0	0	51	$ 1,185
Stillwater	43	$ 975	80	$ 2,020	67	$ 1,855	81	$ 2,145	78	$ 2,525	349	$ 9,520
Sweet Grass	131	$ 2,570	101	$ 2,005	62	$ 1,320	50	$ 1,140	57	$ 1,810	401	$ 8,845
Teton	47	$ 1,050	6	$ 210	35	$ 620	18	$ 425	58	$ 1,025	164	$ 3,330
Toole	26	$ 530	1	$ 40	3	$ 65	21	$ 535	54	$ 1,275	105	$ 2,445
Treasure	0	0	26	$ 205	0	0	0	0	0	0	26	$ 205
Valley	77	$ 1,510	16	$ 470	33	$ 780	111	$ 2,015	57	$ 1,660	294	$ 6,435

	1969		1970		1971		1972		1973		Total	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Wheatland	35	$ 685	42	$ 1,060	52	$ 1,150	67	$ 1,510	105	$ 2,630	301	$ 7,035
Wibaux	5	$ 105	2	$ 40	26	$ 590	12	$ 315	26	$ 660	71	$ 1,710
Yellowstone	51	$ 855	24	$ 590	27	$ 520	17	$ 515	30	$ 560	149	$ 3,040
Total	2,514	$49,277	1,931	$48,575	2,061	$45,591	3,218	$73,761	4,276	$108,365	14,000	$325.569

DATA COLLECTED FROM THE BUREAU OF SPORT FISHERIES AND WILDLIFE

COMPUTATION AND ANALYSIS BY THE DEPARTMENT OF LIVESTOCK

APPENDIX 7

REQUESTS FOR SERVICES STUDY
CATTLE LOSS TOTALS
BUREAU OF SPORT FISHERIES AND WILDLIFE
COUNTY WIDE SUMMARY

Fiscal Years 1969-1973
By
Number and Value

	1969		1970		1971		1972		1973		Total	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Beaverhead	3	$ 170	2	$ 300	1	$ 250	9	$1,000	4	$ 725	19	$ 2,445
Big Horn	8	$ 470	14	$1,450	6	$ 390	8	$ 980	8	$ 990	44	$ 4,280
Blaine	0	0	1	$ 115	3	$ 315	1	$ 175	3	$ 750	8	$ 1,355
Broadwater	0	0	2	$ 230	2	$ 350	1	$ 250	0	0	5	$ 830
Carbon	2	$ 115	0	0	0	0	0	0	0	0	2	$ 115
Carter	0	0	0	0	0	0	0	0	0	0	0	0
Cascade	0	0	2	$ 250	0	0	3	$ 475	5	$ 775	10	$ 1,500
Chouteau	5	$ 430	0	0	8	$ 505	1	$ 90	5	$ 600	19	$ 1,625
Custer	1	$ 90	0	0	0	0	1	$ 250	0	0	2	$ 340
Daniels	0	0	0	0	0	0	0	0	0	0	0	0
Dawson	0	0	0	0	4	$1,000	0	0	0	0	4	$ 1,000
Deer Lodge	0	0	0	0	0	0	0	0	0	0	0	0
Fallon	0	0	0	0	0	0	3	$ 265	0	0	3	$ 265
Fergus	6	$ 480	1	$ 65	0	0	6	$ 635	13	$1,900	26	$ 3,080

	1969		1970		1971		1972		1973		Total	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Flathead	0	0	1	$ 115	0	0	0	0	0	0	1	$ 115
Gallatin	0	0	0	0	0	0	3	$ 240	0	0	3	$ 240
Garfield	0	0	0	0	0	0	0	0	6	$1,945	6	$ 1,945
Glacier	0	0	0	0	0	0	0	0	0	0	0	0
G. Valley	0	0	0	0	1	$ 65	0	0	0	0	1	$ 65
Granite	0	0	2	$ 300	0	0	0	0	0	0	2	$ 300
Hill	7	$ 475	0	0	1	$ 140	0	0	2	$ 300	10	$ 915
Jefferson	1	$ 65	3	$ 155	1	$ 140	1	$ 175	8	$ 715	14	$ 1,250
Judith Basin	4	$ 430	4	$ 570	4	$ 335	8	$ 250	2	$ 300	22	$ 1,885
Lake	1	$ 50	0	0	4	$ 305	1	$ 90	1	$ 175	7	$ 620
Lewis&Clark	0	0	1	$ 115	0	0	1	$ 175	2	$ 350	4	$ 640
Liberty	0	0	0	0	0	0	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0	0	0
Madison	2	$ 230	2	$ 300	0	0	0	0	0	0	4	$ 530
McCone	0	0	0	0	2	$ 500	0	0	0	0	2	$ 500
Meagher	2	$ 230	0	0	1	$ 65	0	0	1	$ 140	4	$ 435
Mineral	0	0	0	0	0	0	0	0	0	0	0	0
Missoula	0	0	4	$ 650	0	0	0	0	0	0	4	$ 650
Musselshell	2	$ 80	0	0	0	0	5	$ 240	0	0	7	$ 320

	1969		1970		1971		1972		1973		Total	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Park	2	$ 180	8	$1,060	1	$ 65	17	$3,665	4	$ 425	32	$ 5,395
Petroleum	0	0	0	0	0	0	0	0	2	$ 300	2	$ 300
Phillips	0	0	0	0	2	$ 180	6	$ 660	17	$1,790	25	$ 2,630
Pondera	1	$ 250	0	0	0	0	0	0	0	0	1	$ 250
Powder River	0	0	0	0	0	0	2	$ 250	9	$1,125	11	$ 1,375
Powell	3	$ 390	0	0	0	0	1	$ 175	6	$ 500	10	$ 1,065
Prairie	0	0	0	0	0	0	0	0	0	0	0	0
Ravalli	0	0	0	0	6	$ 390	0	0	2	$ 115	8	$ 505
Richland	0	0	0	0	4	$ 550	0	0	0	0	4	$ 550
Roosevelt	0	0	0	0	5	$ 550	3	$ 300	3	$ 365	11	$ 1,215
Rosebud	0	0	31	$1,390	0	0	4	$ 380	14	$1,850	49	$ 3,620
Sanders	0	0	2	$ 350	0	0	0	0	0	0	2	$ 350
Sheridan	0	0	1	$ 140	0	0	0	0	4	$ 440	5	$ 580
Silver Bow	0	0	2	$ 300	0	0	0	0	4	$ 300	6	$ 600
Stillwater	0	0	1	$ 250	1	$ 250	1	$ 175	0	0	3	$ 675
Sweet Grass	1	$ 90	1	$ 90	0	0	1	$ 90	0	0	3	$ 270
Teton	9	$ 775	1	$ 65	0	0	0	0	4	$ 600	14	$ 1,440
Toole	0	0	0	0	1	$ 90	0	0	0	0	1	$ 90

"PROCEDURE"

(2) That portion of the table of contents contained in the first section of the Federal Aviation Act of 1958 which appears under the side heading

"Sec.609. Amendment, suspension, and revocation of certification."

is amended by adding the following:

"(a) Procedure.
"(b) Violation of certain laws."

Sec. 3. The amendments made by the first section of this Act shall take effect as of the thirtieth day after the date of enactment of such section; except that, in any case in which a State is not authorized to issue any permit referred to in the amendments made by such first section, such amendments shall take effect in any such State as of the thirtieth day after the expiration of the next regular session of the legislature of such State which begins on or after the date of enactment of this Act.

Approved November 18, 1971.

Legislative History:

House Report No. 92-202 (Comm. on Merchant Marine and Fisheries).
Senate Report No. 92-421 (Comm. on Commerce).
Congressional Record, Vol. 117 (1971):
May 17, considered and passed House.
Nov. 4, considered and passed Senate, amended.
Nov. 5, House concurred in Senate amendments.

Sub-Chapter 18

Sheep Permit Required Before Removal From County

32-2.10(18)-S10080 PERMIT REQUIRED (1) In any county of the State of Montana where the sheep raisers have petitioned and requested the Department of Livestock, Brands-Enforcement Division to issue permits for sheep before removal from that county, as provided for in Section 46-809, R.C.M. 1947, any person removing or causing to be removed from that county any sheep or lambs must first obtain from a State Stock Inspector or Deputy State Stock Inspector a permit for removal, such permit shall be issued on Department of Livestock, Brands-Enforcement Division Form 35B. The owner or his agent must sign permit and certify as to approximate number and the description and brands. Department of Livestock, Brands-Enforcement Division Form 35B shall, when used for a sheep permit, show destination in or out of the State of Montana. Destination on a sheep permit is not limited to Montana only. (History: Sec. 46-809, R.C.M. 1947; Order MAC No. 32-1; Adp. 10/1/62; Eff. 12/31/72.)

Sub-Chapter 22

Aerial Hunting Permits

32-2.10(22)-S10090 AERIAL HUNTING UNLAWFUL WITHOUT PERMIT (1) Under the provisions of Public Law 92-159, 92nd Congress of the United States, the Federal Fish and Wildlife Act was amended prohibiting the aerial hunting of any animal by any person unless such person has obtained a permit from a State, or any agency thereof, charged with the protection of, among other things, livestock. Under the provisions of Section 46-1903, R.C.M. 1947, the Montana Department of Livestock is vested with primary control and authority in the area of predatory animal control for the protection of livestock. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10100 APPLICATION FORMS (1) An Aerial Hunting Application may be obtained by writing to the Montana Department of Livestock, Brands-Enforcement Division, Helena, Montana 59601, or by calling 449-2044. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4;

AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10110 WHO MAY APPLY (1) The Department of Livestock, Brands-Enforcement Division will issue such permits to qualified pilots who make proper application to said Department and meet all requirements of the Department of Livestock, Federal Aviation Administration, and the Montana Aeronautics Division, Department of Intergovernmental Relations. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10120 PURPOSE (1) Aerial Hunting Permits shall be issued to qualified pilots only when in the judgement of the Department of Livestock a need exists for hunting of coyotes and/or foxes by aircraft to provide protection for livestock. No permit shall be issued for hunting coyotes and/or foxes for recreational purposes, the use thereof intended solely as a protective measure for livestock. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10130 CLASSES OF AERIAL HUNTING PERMITS

(1) Class I ------ 1 to 30 days
(2) Class II ----- 3 months
(3) Class III ---- 6 months
(4) Class IV ----- 9 months
(5) Class V ------ 12 months
(6) Class IV and V permits may only be issued to Commercial Pilots. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10140 REQUEST FOR ADDITIONAL AREAS

(1) If additional areas are requested for aerial hunting after issuance of a permit, the following information must be provided and subject to approval by the Department of Livestock, Brands-Enforcement Division:

(a) Two copies of a county map showing watershed drainages, if available, with the following information:

(i) Outline in RED the PROPOSED AREAS for aerial hunting.

(ii) Shade in BLUE those areas where livestock producers

are presently requesting aerial hunting and experiencing the killing, destruction, maiming or injury of domestic SHEEP from coyotes and/or foxes.

(iii) Shade in GREEN those areas where livestock producers are presently requesting aerial hunting and are experiencing the killing, destruction, maiming or injury of CATTLE from coyotes and/or foxes.

(iv) Shade in ORANGE those areas where livestock producers are presently requesting aerial hunting and are experiencing the killing, destruction, maiming or injury of livestock OTHER than domestic sheep or cattle from coyotes and/or foxes. (i.e., poultry, swine, horses, etc.)

(b) Submit on the Livestock Producers - Aerial Hunting Request Form (available through the Department of Livestock, Brands-Enforcement Division) the name of each livestock producer presently requesting aerial hunting due to the killing, destruction, maiming or injury of domestic livestock (primarily sheep and cattle). Please include the address, telephone number, type of damage and the predator causing said damage. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10150 REPORTS (1) Monthly reports must be filed with the Montana Department of Livestock, Brands-Enforcement Division. It shall be the duty of the pilot to report the following information for each day's hunt.

(a) Date and hours.
(b) County and general location.
(c) Coyotes and/or foxes taken.
(d) Landowner where coyotes and/or foxes were taken.
(e) Names of Gunners.

(2) The permit holder shall submit, on request of the Department of Livestock such other and further information and reports as requested by the Department of Livestock. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10160 SPECIES ALLOWED TO HUNT (1) Coyotes and/or foxes may be hunted by aircraft in designated areas once an Aerial Hunting Permit is obtained. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10170 CLOSED TO AERIAL HUNTING (1) All lands in Montana are closed to aerial hunting until the Department of Livestock officially approves aerial hunting in a proposed area. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10180 PERMITS MAY BE REVOKED (1) This permit may be revoked at any time if required reports are not submitted monthly to the Montana Department of Livestock, Brands-Enforcement Division, or if other requested information is withheld, or if there occurs any violation of the rules of the Department of Livestock, Federal Aviation Administration, Montana Aeronautics Division or any other interested state or federal agency. In the event a Pilot's license expires, or is revoked, the permit is invalid. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10190 SHOT GUN (1) Shot guns no larger than 10 guage, capable of holding not more than three shells may be used for aerial hunting. BB's are the recommended shot size. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10200 FEDERAL AVIATION ADMINISTRATION AND MONTANA DIVISION OF AERONAUTICS (1) Full compliance with all rules and regulations governing pilots and aircraft under the jurisdiction of these two agencies shall be required. Any person owning, controlling, operating, or managing aircraft for any commercial purpose for compensation shall comply with Division of Aeronautics' Commercial Operator Liability Insurance requirements. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/16/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10210 RESPONSIBILITIES OF THE PILOT

(1) Be properly rested before conducting any flying operations.

(2) Be responsible for pre-takeoff flight check of the aircraft.

(3) Maintain a continuous weather check while in flight.
(4) Land for a rest stop at least every two hours when flight is continuous.
(5) Conduct operations so that the safety of ground personnel is maintained.
(6) Be responsible for the post-flight care of the aircraft.
(7) Be responsible for the maintenance of the aircraft according to the regulations of the F.A.A. and the condition of the aircraft.
(8) Select a safe, competent gunner who shall in all cases conduct gunning operations in accordance with these rules.
(9) Be properly certified according to the Department of Livestock's rules.
(10) To obtain permission of the landowners, administrators or lessees before initiating any aerial hunting on such lands, and to provide the Department of Livestock with evidence of such permission, if requested. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)

32-2.10(22)-S10220 RESPONSIBILITIES OF THE GUNNER
(1) Not to engage in aerial hunting until the pilot shows an Aerial Hunting Permit validly issued by the Montana Department of Livestock.
(2) Remain awake and alert at all times and maintain a lookout for hazardous conditions.
(3) Remove the shell from the chamber of the shot gun before bringing the barrel of the gun inside the plane.
(4) Be responsible for the care and proper operation of the gun and ammunition. Effective date to be determined pending public hearings on said rule. (History: Sec. 46-1903, R.C.M. 1947; MAC Not. No. 32-3-3; NEW, Order MAC No. 32-3-6; Adp. 10/15/73; Eff. 11/4/73; MAC Not. No. 32-3-4; AMD, Order MAC No. 32-3-7; Adp. 12/16/73; Eff. 1/5/74.)